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The study describes four clusters for organic vegetables along the East West Economic Corridor (EWEC). These clusters have three goals: (a) to foster the conversion of conventional agricultural farming to organic production, and thereby enable the generation of high value-added activities; (b) to promote linkages among micro and small scale producers, and thereby improve their competitive position within the value chain; and (c) to spur the development of agricultural activities affecting the majority of the EWEC population either directly or indirectly, and thereby enable the transformation of

**the EWEC transport and logistics
corridor into a full-fledged economic
corridor.**

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Mapping the Organic Vegetable Value Chain along the East West Economic Corridor

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The authors are consultants to the ADB Thailand Resident Mission. The study was prepared under the project supervision of Rattanatay Luanglatbandith, Regional Cooperation Economist, Thailand Resident Mission.

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ABBREVIATIONS

ADB	Asian Development Bank
ACFS	Agricultural Commodity and Food Standards
ACT	Organic Agriculture Certification Thailand
ADDA	Agricultural Development Denmark Asia
AQIS	Australian Quarantine and Inspection Service
AusAID	Australian Agency for International Development
BDS	Business Development Service
CBTA	Cross-Border Transport Agreement
CCI	Chamber of Commerce and Industry
CDTA	Capacity Development Technical Assistance
DFID	Department for International Development
EquiTool	Guide for Assessing Equivalence of Standards and Technical Regulations
EU	European Union
EWEC	East-West Economic Corridor
FAO	Food and Agriculture Organization of the United Nations
GAP	Good Agricultural Practices
GMO	Genetically Modified Organisms
GMP	Good Manufacturing Practices
GMS	Greater Mekong Subregion
GOMA	Global Organic Market Access
HACCP	Hazard Analysis and Critical Control Point
HS	Harmonized System
IFAD	International Fund for Agricultural Development
IFOAM	International Federation of Organic Agriculture Movements
IMO	Institute for Marketecology
IOAS	International Organic Accreditation Service
IPM	Integrated Pest Management
ITC	International Trade Centre
ITECC	International Trade Exhibition and Convention Centre
JAS	Japanese Agricultural Standard of Organic Products
LCB	Lao Certification Body
MAF	Ministry of Agriculture and Forest
MSE	Micro and small scale enterprises
NGO	Non-governmental organization
NOP	National Organic Program
NORAD	Norwegian Agency for Development Cooperation
NOS	National Organic Standard
NSOA	National Standards for Organic Agriculture
OARD	Office of Agricultural Research and Development
PPP	Public-private partnership
RCO	Registered Certification Organization
SIPPO	Swiss Import Promotion Programme
SNV	Netherlands Development Organization
SPS	Sanitary and Phytosanitary Standards
TOTA	Thai Organic Trade Association
UNCTAD	United Nations Conference on Trade and Development
USDA	United States Department of Agriculture
VCCI	Vietnam Chamber of Commerce and Industry

EXECUTIVE SUMMARY

A. Transforming the EWEC into an Economic Corridor

The present study maps the organic vegetables value chain in the East West Economic Corridor (EWEC). It covers horizontal and vertical linkages, information and support services, price differentials, and packaging, branding and certification processes in an effort to identify strengths and challenges for an action plan in the value chain. In so doing, it supports the transformation of the EWEC from a transport and logistics corridor into a full-fledged economic corridor. After more than a decade in the making, the EWEC now offers time and cost-efficient transport linkages between major commercial centers and gateways to markets within and outside the corridor. By broadening the scope of the EWEC into value chains whose activities extend across districts, provinces, subregions and global markets, the economic corridor will enable households and enterprises of all sizes to better link their actions with value-adding downstream activities.

B. Challenges to Improving Livelihoods

The people living along the Corridor are among the poorest in the EWEC countries, and the majority of households are involved in activities related to the agricultural sector. A dependency on subsistence agriculture using traditional farming methods that rely on expensive pesticides and herbicides has caused many of the households to be economically impoverished. Farmers often lack knowledge about alternative farming techniques that rely on less expensive inputs and farming techniques requiring timely interventions and weed control. At the same time, most households are unaware of market opportunities beyond their immediate surroundings, and have little or no knowledge about broader national or international market opportunities. There is also a lack of pricing information, technologies, certification, branding, networking and linkages along the value chain for processing, packaging and marketing.

C. Adding Value to Organic Vegetable Production

One solution to the problems facing farmers along the Corridor is to create an integrated approach to the organic vegetable industry that takes advantage of existing agricultural resource-based activities. So far, efforts by local authorities and NGOs have been largely concentrated on promoting organic farming, without much attention being given to downstream linkages and value adding activities. While these efforts are laudable, they have not significantly impacted on farm incomes because organic vegetables are often sold alongside conventional vegetables at similar prices in community or provincial markets. Yet prices of organic produce in the EWEC's large urban centers and in the North American and European markets are, on average, 2.4 times higher than their nonorganic counterparts. By fully integrating their production, marketing and distributing activities, producer groups could obtain fair market prices for their products and thereby improve their livelihoods.

D. The Corridor's Agricultural Producers are Well-Positioned to Tackle the Enormous Trade Potential in Organic Vegetables

In the EWEC provinces, labor is abundant and inexpensive relative to that of producers in the large organic markets of North America, Europe and Japan. At the same time, the EWEC has dramatically lowered the time and cost of moving goods across long distances. The potential benefits from exploiting these competitive advantages in the production of

organic vegetables along the Corridor are therefore enormous, as are the economy-wide effects that would be produced from additional employment and expenditures on downstream and supporting industries. These effects are particularly important for micro and small size enterprises, which tend to predominate in upstream activities and have the greatest difficulties in getting their products to markets outside their immediate communities.

E. Matching the Corridor's Organic Farming Activities with the Enormous Market Potential for Organic Vegetables

Safe food concerns is driving the rapid growth in demand for organic vegetables, not only in international and national markets but in local markets as well.

- ✓ The Thai domestic market for organic agricultural products is currently valued at US\$80 million, which is three times greater than the market only five years earlier.
- ✓ The Lao and Vietnamese markets for organic products are in the early stages of development, but are expanding rapidly because of concerns over food safety and recognition of the growing market deficits in neighboring countries like Thailand.
- ✓ The North American and European markets together spend US\$57 billion in organic foods and both have large shortages of domestic supplies.

Global market prices for conventional agricultural products have risen by 36 percent in the last year. At the same time, the price premiums on organic vegetables in the major international markets range from 33 percent for products such as aubergine, tomatoes and asparagus to as much as 300 percent for cabbage, onions and Chinese celery. Organic vegetable prices are also more stable than conventional vegetables and less subject to speculative price movements over the short to medium term.

Nearly all of the high-end organic vegetables are already being produced along the EWEC. They include Chinese celery, onions, cabbage, Chinese radish, broccoli, basil, yard-long beans, mushrooms, green lettuce, spinach and carrots. Farmers along the EWEC provinces are therefore in an exceptional good position to take advantage of the strong market for organic vegetables.

F. Time and Dedication will be Needed to Achieve Large Gains

It is important to recognize that development of a fully integrated EWEC organic vegetables value chain will require considerable time and dedication on the part of its participants, as well as supporting public agencies, private institutions and international development partners. It will also require considerable effort since, as a minimum, it will involve:

- Building strong public-private partnership programs
- Creating awareness with mass media campaigns
- Intensifying collaboration among farmers to ensure adequate and reliable quantities for processing and packaging plants
- Building inclusive farmer groups for the vast number of poor households that currently lack opportunities to add value to their products
- Establishing networks and clusters to improve linkages among value chain participants

- Introducing market information about organic vegetable prices and access to markets
- Helping producer groups to package and brand organically certified products to add value to their products
- Supporting producer groups in the organic certification of their products
- Enhancing sanitary and phytosanitary (SPS) and behind-the-border policies to encourage cross-border trade and investment along the Corridor

G. Seven Steps to a Successful Organic Vegetable Value Chain

A fully integrated approach to producing, marketing and distributing organic vegetables along the EWEC could be achieved in a relatively few, well planned steps:

Step 1 – Develop a *business model* for the industry that has as its actionable areas the use of producer groups, accreditation of products for certification, branding and packaging to differentiate organic products from their conventional counterparts, and disseminating market information on prices and access requirements in national and export markets.

Step 2 – Create *high-profile pilot projects* in key areas of the Corridor whose farmers, packaging plants and distribution centers can serve as a showcase to others within a community.

Step 3 – Encourage *producer groups* and processing facilities within the Corridor so that organic products can achieve scale economies needed to supply processors and packaging plants.

Step 4 – Use existing *EWEC transport and logistics* facilities along with improved border formalities to promote cross-border trade and investment in organic vegetables.

Step 5 – Market the EWEC as ‘*the Organic Belt of the Greater Mekong Subregion*’.

Step 6 – Disseminate *market information* through mass media channels covering market prices for each type of organic vegetable being sold in large urban centers of the EWEC countries, as well as the North American and European markets. The same channels can be used to provide information about the different types of produce required in key markets and how farmers can better access those markets.

Step 7 – Improve *knowledge and information flows* through business development service (BDS) centers that help upgrade farming practices, introduce appropriate farming methods, apply branding and marketing techniques, support organic certifications procedures, and facilitate networking among value chain participants.

H. Development of the Organic Vegetable Value Chain Will also Help Other Corridor Industries

The spillover effects of a full-fledged EWEC organic vegetable value chain are immense. They impact not only the majority of Corridor-based households whose livelihoods depend on farming, but also traders, processors, logistics providers, and the retail industry. Because of the size of its potential impact within provinces and along the entire length of the Corridor, the expansion of organic farming activities will also have large multiplier effects on local and national economies because of the feed-through effects that improvements in livelihoods can have on all aspects of consumer spending.

Success in the organic vegetable value chain can serve as a model for other activities along the Corridor, especially those that can most benefit the poor. They include ecotourism, organic and exotic tropical fruits, livestock, rattan, furniture, cement and construction materials, bio-organic rice, sugar, handicraft, and herbal medicines.

All EWEC governments have demonstrated great enthusiasm for the development of organic agriculture in their countries. Value chains are considered one of the most effective ways to ensure the participation of micro and small enterprises in large-scale value adding activities. In many cases, local authorities, community leaders and international development agencies are already involved in the promotion of different organic projects. Consolidating that effort into a unified and fully integrated program could make the Corridor into the '*Organic Belt of the Greater Mekong Subregion*' and greatly contribute to the EWEC's transformation into an economic corridor.

1. TRANSFORMING EWEC INTO AN ECONOMIC CORRIDOR

1.1. Challenges in Transforming the EWEC into an Economic Corridor

Corridors are the cornerstone of economic development in the Greater Mekong Subregion (GMS). Their infrastructure, system logistics and contact networks between supply areas and markets enable households and enterprises of all sizes to participate in the chain of activities by linking their actions with other primary and service providers in an industry. By integrating the activities of businesses from raw materials to eventual end-users, enterprises are able to deliver goods at improved values within each stage of the process at lower costs than if they operated in a piecemeal manner.

Development of transport and logistics corridors are therefore important predecessors to the development of economic corridors, especially when an industry's value chain extends across districts, provinces and countries, including the corridor gateways to global value chains. Transforming the East West Economic Corridor (EWEC) from a transport and logistics corridor to a full-fledged economic corridor has not, however, been seamless. While the EWEC provides important transport linkages between major commercial centers and gateways to markets within and outside the Corridor, it has yet to fulfill its intended development objective of reducing poverty, developing rural and border areas, and improving the earnings of low income and vulnerable groups along the areas surrounding the Corridor.¹

Value chains can be an important vehicles for development by the private sector, especially micro and small sized enterprises (MSEs). But experiences in the GMS countries and global markets in general shows that value chains are not, in and of themselves, a panacea for the EWEC's development. First, MSE-related value chain activities in countries like Thailand have flourished during periods of rapid national and international market growth, but linkages to medium and large sized companies have been broken during periods of sluggish growth and market contractions.

Secondly, during periods of uncertainty, many companies tighten supply relationships, and adopt strategies to mitigate supply chain risk by adopting performance-based contracts with suppliers or service providers. Moreover, the fact that MSE activities in countries like Vietnam have been unable to integrate into medium and large-scale business relationships because they lack international standards and quality controls.

Overcoming these obstacles requires that MSEs along the EWEC adopt good business practices in the form of (i) product and service improvements that are in line with national and international production and quality standards; (ii) public sector initiatives that promote an enabling environment for the private sector; (iii) greater access to finance and support services with specialized competencies in target activities; and (iv) development of networks that generate economies of scale and agglomeration in industries having existing or potential competitive advantages along the Corridor. All of these conditions require considerable time to implement and dedication on the part of the implementing agencies.

¹ ADB, Strategy and Action Plan for the Greater Mekong Subregion East-West Economic Corridor. Available: www.adb.org/GMS/Economic-Corridors/EWEC-SAP.pdf. For an evaluation of changes in living standards in the EWEC area of Lao PDR, see Montague Lord, "Impact of the EWEC on Development in Border Provinces: Case Study of Savannakhet Province in Lao PDR". Manila, Asian Development Bank, October 2010.

The present study focuses on one specific industry, namely, organic vegetables, along the EWEC. It discusses existing activities in the industry and identifies different value chain activities for the industry. In so doing, it seeks to map those activities in a representative value chain model. What immediately becomes apparent, however, is that there is no single parsimonious representation for organic vegetable activities along the EWEC. Some activities are localized, while others are well integrated into national and global value chains; others form part of an integrated eco-tourism system; and some others differentiate themselves by streamlining the value chain through contract farming and other arrangements to bypass middlemen.² We therefore adopt a generalized value chain model for organic vegetables that can be differentiated into a relatively few key sub-models, each of which requires specific supporting services, and networking configurations. That representation then allows us to identify and assess specific constraints to the successful implementation of the value chains, and how overcoming those issues could generate trade and investment flows along the Corridor, and ultimately lead to large improvements in the livelihoods of the populations in the EWEC provinces.

1.2. Why Organic Vegetables

The majority of MSEs along the EWEC are in the agricultural sector. The area surrounding the Corridor is largely semi-arid, and its population is among the poorest in the EWEC countries. Traditional agricultural communities follow an annual cycle, dictated by the farming seasons and tropical weather. A dependency on subsistence agriculture using traditional farming methods that rely on expensive pesticides and herbicides has caused many of the households to be economically impoverished. Farmers often lack knowledge about alternative farming techniques that rely on less expensive inputs and farming techniques requiring timely interventions and weed control. At the same time, most households are unaware of market opportunities beyond their immediate surroundings, and have little or no knowledge about broader national or international market opportunities. There is also a lack of pricing information, technologies, certification, branding, networking and linkages along the value chain for processing, packaging and marketing.

One solution to these problems is to create an integrated approach to the organic vegetable industry along the Corridor that takes advantage of existing agricultural resource-based activities within the subregion. There are eleven reasons motivating the selection of organic vegetables as a high profile, demonstrable value chain in the EWEC is as follows:

- (1) A large number of households are involved in small scale agricultural activities and many of these households still live below the poverty line.
- (2) The global food market is robust, with prices for foods having risen 36 percent in the last year.³

² For details of contract farming in Thailand's Nakhon Pathom province (near Bangkok) for asparagus and other vegetables, see Chatcharee Naritoom, "Contract farming in Central Plain: a case study of asparagus grower groups in Nakhon Pathom Province". The International Conference on The Chao Phraya Delta: Historical Development, Dynamic and Challenges of Thailand's Rice Bowl, 12-14 December 2000, Kasetsart University, Bangkok.

³ Based on March 2011 data compared from a year earlier. Source: World Bank, Food Price Watch. Available: http://www.worldbank.org/foodcrisis/foodpricewatch/april_2011.html.

- (3) Global market prices for organic vegetables are, on average, 2.4 times higher than their conventional counterparts.⁴
- (4) Prices of organic vegetables tend to be more stable than those of conventional vegetables.⁵
- (5) Since organic farming is labor intensive, the EWEC countries have a comparative advantage in the production of organic vegetables because of their low-cost labor relative to that of the more advanced countries.
- (6) Safe food concerns is driving the rapid growth in demand for organic vegetables, not only in international and national markets but in local markets as well.
- (7) Thailand's large deficit in existing production of organic products provides a ready market for any production taking place throughout the Corridor provinces.
- (8) The Laotian province of Savannakhet, which is traversed by the EWEC, could be a major supplier of organic products for neighboring countries.
- (9) The public and private sectors in the central region of Vietnam have a strong interest in developing organically certified products for the ASEAN region and markets in Europe and the United States.
- (10) All EWEC governments support the development of organic agriculture, and in many cases, local authorities, community leaders and international development agencies are already involved in the promotion of different organic projects.
- (11) Widespread implementation of organic vegetable value chains along the Corridor area could substantially improve living standards of large pockets of the EWEC population and thereby contribute importantly to the transformation of the EWEC transport and logistics corridor into an economic corridor.

1.3. Study Scope, Coverage and Implementation

The present study focuses on the mapping of the organic vegetables value chain in the EWEC. It identifies key value chain activities, linkages, supporting services, and related organizations and institutions involved in organic vegetables. Specific areas covered include key value chain functions, activities and participants in each function, input sources, end-market destinations, products and services along the chain, and interrelationships among participants within the chain. It also identifies and assesses constraints related to 'hard' issues like cross-border transport and logistics and 'soft' ones like cross-border trade rules and regulations affecting the value chain that affect product trade flows originating from MSEs along the EWEC.

To properly cover these areas, the study is divided into the following major topics:

⁴ Based on April 2011 prices in United States, compiled by Rodale Institute. See New Farm Organic Price Report, available: <http://www.rodaleinstitute.org/Organic-Price-Report>.

⁵ Based on data provided by Kiel Institute for the World Economy and reported in Aslihan Arslan und Linda Kleemann, "More money for small farmers". Available: <http://www.inwent.org/ez/articles/190968/index.en.shtml>.

- ❖ Mapping Core Processes, Agents and Products (Chapter 2)
- ❖ Mapping Knowledge and Information Flows (Chapter 3)
- ❖ Mapping Price Differentials along the Value Chain (Chapter 4)
- ❖ Mapping Markets and Product Flows (Chapter 5)
- ❖ Mapping Support Services along the Value Chain (Chapter 6)
- ❖ Mapping the Certification Process (Chapter 7)
- ❖ Mapping Constraints and Action Plan (Chapter 8)

The results of the comprehensive analysis are being used to prepare quick reference guide in the form of a brochure that outlines the steps, inputs, risks and other requirements for participating in the organic vegetables value chain. It is to serve as a training tool by local chambers of commerce and industry to improve activities in the industry, especially those that support MSE activities into the high value product markets.

The study preparation and its delivery phases extends from the end of February 2011 to mid-June 2011. It includes a dissemination event (25-26 May) in the form of a workshop on value chain integration into existing production and distributions, which presents the mapping exercise to different representative participants of the organic vegetables value chain along the EWEC, as well as local chambers of commerce and industry, and industry-related associations.

Figure 1.1: Field Study Interview with Farmer in Atsaphangthong District of Savannakhet Province in Laos



Four field trips were undertaken during the implementation of the assignment:

- Field Trip No. 1: Khon Kaen and Kalasin (Thailand), 14-18 March 2011
- Field Trip No. 2: Savannakhet (Laos), 21-25 March 2011.
- Field Trip No. 3: Hanoi and Da Nang (Vietnam), 28 March to 1 April 2011.
- Field Trip No. 4: Vientiane (Laos), 11-12 April 2011.

The study is part of an overall technical assistance project on support the development of value chains along the Corridor. The next phase of the project will examine the possibility of organizing production clusters based on the spatial distribution of organic vegetable activities along the Corridor and the comparative advantages and strengths of various geographic locations. It will also assess the possibility of linking those production clusters with the GMS free-trade zones, special economic zones and export-oriented zones.

2. MAPPING THE CORE PROCESSES, AGENTS AND PRODUCTS

2.1. Overview

Figure 2.1 maps the traditional and modern production and distribution channels along the EWEC for organic vegetable. The channels range from a simple *supply chain* where the products are simply transferred from the farm to the consumer without any value being added to the products, to sophisticated *value chains* where the products are transformed through grading, sorting, packaging, and cool storing along the various stages of production and distribution to add value to the product during the production and distribution to the consumer. The activities of each participant in the value chain are shown in Figure 2.2.

Input Supplies – At the initial stage of the process, the farm uses input supplies from either external sources or from within the farming process itself. For organic farming, the key external inputs are likely to be seeds and, in some cases, organic fertilizers. In Savannakhet, for example, a Thai-owned company is manufacturing pellet-shape organic fertilizer; and in Khon Kaen, the bagasse residual of the large sugarcane process plants is sold to farmers. Often, however, the farm produces its own fertilizers through animal manure and the traditional methods of fermentation compost fertilization.

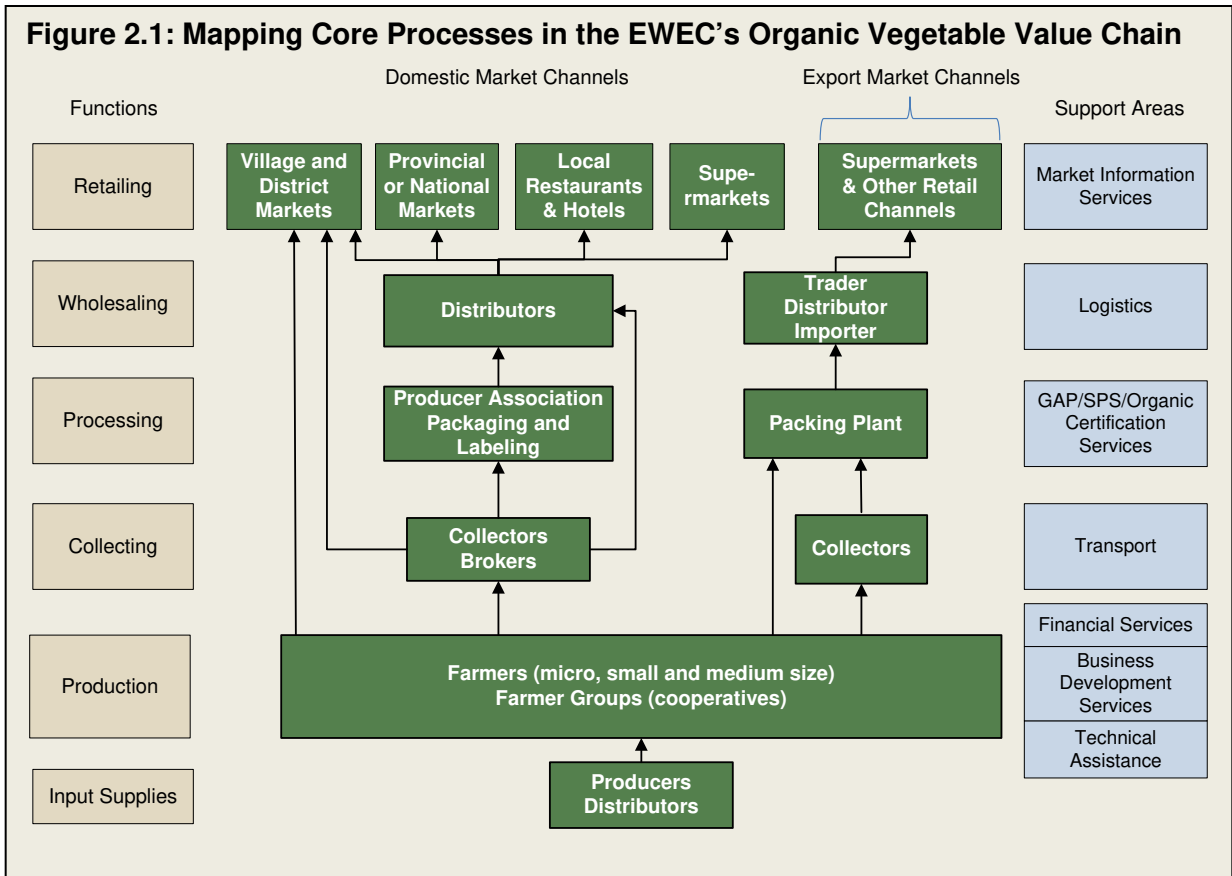
Production – Organic agricultural land in Thailand, Laos and Vietnam equals about 50,000 hectares, or 0.15 percent of all land area.⁶ Organic vegetables are mainly grown in small landholdings by individual households or by farm groups. The farm groups either operate under a common organic project in a cooperative structure or as contract growers groups for processing and packaging companies or supermarkets.

- In the Thai provinces traversed by the EWEC, there is a growing phenomenon of formal and informal associations of farmers. The more formal associations provide organic branding and certifications, while those that informal associations in a village exchange information and knowledge about organic farming techniques. They are often the predecessors to formal associations that develop branding and joint marketing strategies.
- In the province of Savannakhet in Laos, farmers are being brought together in informal groups operating organic test sites run by local authorities and support from non-government organizations (NGOs).
- In the central provinces of Vietnam that are traversed by the EWEC, there are several formal cooperatives known as communes, which are operated under the farmers association of each province. Each household has his own area of land, but a single agent manages the collection and distribution of all produce from the commune.

Collection – Traditional collectors and brokers predominate throughout the EWEC provinces. They pick up the farm produce and carry them to local or provincial markets, normally without refrigeration. The emergence of specialized and dedicated refrigeration systems has yet to emerge in the subregion, notwithstanding advances in the infrastructure and logistics along the Corridor.

Processing – The processor normally works with preferred suppliers, either in the form of preferred groups or through contracting farming. These arrangements ensure high quality produce at low costs. These long-term arrangements support fair trade prices for farmers

⁶ Laos has a somewhat higher proportion (0.22%) of organic land. Source: www.organic-world.net.



to ensure dedicated and stable supplies to the plant. The processing system is accompanied by certification services in the plant.

Wholesaling – The predominant Larger supermarkets like TOPS and Metro rely on dedicated wholesalers, who only supply certain products and a single supermarket chain. Like processors, wholesalers also tend to form long-term arrangements with farm groups or associations. It ensures that traceability along the value chain.

Retailing – The traditional vegetable outlets are village and urban markets, while modern retailing is divided into (i) supermarket and quality food stores, and (ii) restaurants and hotels. As distribution moves from domestic to foreign markets, controls over standards for quality and safety, along with 'just in time' deliveries rises. Exported produce is primarily directed at supermarket chains. Reductions in trade barriers, improved transport and logistics systems, and increased capital mobility have all contributed to the growth in globalised value chains. Nevertheless, export markets tend to be concentrated in a relatively few supermarket chains.

Figure 2.2: Mapping Activities of Core Actors in Organic Vegetable Value Chain

Farmers	Collectors	Processors	Wholesalers/Trader	Retailers
Cultivation	Collect	Categorize	Quality Control	Storage
Growing	Categorize	Cleaning	Storage	Selling
Harvesting	Store	Drying	Transport	
Cutting	Transport	Cutting		
		Processing		
		Packaging		

2.2. Elementary Organic Vegetable Supply Chains

In the most basic household-level model, the farmer either transports his produce to the local market or sells it to a collector, who re-sells to a wholesaler or distributor or in the local market. These flows are depicted in Figure 2.1, first, through the direct channel between farmers to markets and, second, to local markets via collectors. There is no value added to the process because organic produce is normally sold alongside conventional produce, without any differentiation between the two.

Prices received by the farmer therefore tend to be low and in line with those of non-organic products. However, the profit margin for the farmer is higher than that of farmers who use the more costly chemical fertilizers, herbicides and pesticides. Organic farming is, however, more labor intensive, but in the EWEC countries labor is inexpensive and relatively abundant. The only drawback is the willingness of farmers to invest more time and energy in farming practices.

Box 2.1 describes the case of one organic farmer in Savannakhet, who has successfully grown watermelons but faces low prices because of the lack of branding and certification for his product.

2.3. Value Chains of Producer Associations

When farmers develop relationships with one another or with processors and distributors, they are more likely to add value to their products. The most common relationship found along the EWEC is in the form of producer associations. In local markets like those in Khon Kaen and Kalasin, producer associations have been able to add value to their products through safe-food certification and branding their produce.

Farmers associations, operating as commercial organizations, are regular suppliers of supermarkets. The success of these associations is largely based on a combination of factors:⁷ (a) technical training on safe vegetable production; (b) efficient sourcing of input supplies; (c) collective marketing; (d) quality control; (e) labeling and branding; and, in a limited number of cases, (f) financing. In both Thailand and Vietnam, these associations have been more likely to receive government support in technical training and quality development than individual farms.

Box 2.2 describes the case of one producer group in Khon Kaen that has substantially improved incomes of its member by producing certified organic vegetables.

2.4. Agro-Tourism Value Chains

There are three models used in the EWEC countries for tourism-linked organic vegetable value chains. All have integrated organic farming into their tourism and hospitality activities. The following are examples of facilities for each type:

- ✓ *Organic vegetable farms directly servicing restaurants:* In Khon Kaen, the restaurant by the name of Khun Pom Kitchen is owned and operated by Suwannabumi Organic Company, which cultivates organic vegetables in Phetchabun Province. Its farm produce is also sold at the restaurant, which therefore provides an important vehicle for the sale of its produce.

⁷ Similar findings to those for the EWEC provinces were found for local organic producer associations supplying the Hanoi and Ho Chi Minh City markets. See ADB, "The Participation of the Poor in Supermarkets and Other Distribution Value Chains". Available: <http://www.markets4poor.org>.

Box 2.1: : Case Study of Ban Nong Pak Song Organic Watermelon Farming in Archsapungthong District of Savannakhet

Watermelons from Archsapungthong District in Savannakhet are famous for their excellent quality and taste. Ban Nong Pak Song in that district is located 3 kilometers from Route No. 9 the portion of EWEC in Lao PDR. Although most of the community's farmers mainly cultivate rice, four of them grow organic watermelon as their off season crop. They use 2 rai of their rice fields for organic watermelon and together they produce 4,800 watermelons each month.



The watermelon farmers have learned to use organic methods to grow watermelons without any external guidance. For example, they are using cow manure to produce biogas for their fuel consumption in the farms, a system similar to the advanced one used in the United States under the so-called Cow Power Program. Despite being free from pesticide and chemical fertilizer, there is no certification or safe food labeling for Ban Pak Song watermelon. As a result, Ban Nong Pak Son watermelon is sold without any recognition of its intrinsic value at prices similar to those of nonorganic products.

Mr. Suli Kaewvilaiporn is one of the four organic watermelon farmer. He produces 1,200 organic watermelons a month and sells them to the surrounding villages at 1,000 to 1,300 kip (4 to 5 baht) per watermelon. He could sell watermelons in Dong Hen market at a higher price of around 3,000 kip (11 to 12 baht), but would have to pay a daily rental for the market stand of 25,000 to 100,000 kip (100 to 400 baht). So Mr. Suli prefers to sell his watermelons in the nearby villages at a lower price to avoid rental fees for the market stand. His monthly income is 1,250,000 kip (4,800 baht), and he estimates that his net profit is somewhat over 300,000 kip (1,200 baht).

Mr. Suli and the other watermelon farmers in Archsapungthong District face a number of problems, the most important of which is lack of water. They also lack adequate equipment to dig wells. Although they do not have support and training in organic fruit and vegetable farming, they have the ingenuity necessary to cultivate high-quality products.

- ✓ *Organic vegetable tourist villages:* In Da Nang, Tra Que Vegetable Village, near the town of Hoi An, is famous for its wide variety of organic vegetables. Its farmers use neither manure nor chemical fertilizers but a kind of algae found only in a lagoon in Tra Que. The village produces 8 tons each day of produce, which is sold in the Quang Nam-Da Nang area at premium prices because of their freshness, good quality and safety. Residents of the village supplement their incomes through home-stays and restaurants that rely almost entirely on the village products and often provide cooking

classes to foreigners. Visitors can also participate in farming activities by preparing the land and fertilizing it with seaweed from the local lake.⁸

- ✓ *Home-stay organic farms:* These home-stay farms are common in northern Thailand and have yet to be developed along the Corridor provinces. In Laos there are some home-stay organic farms in Vang Vieng.⁹ They consist of organic farms where visitors can work alongside local farmers for the natural cultivation of crops or assist with composting and all the other essential jobs associated with eco-living. The facilities range from fairly basic accommodations to relatively luxurious facilities with cooking lessons, herbal massage services and hiking and biking in the surrounding areas. An example is the 'Home-Stay Cottage' in Mae Taeng, Chiang Mai province. The facility is a member of World-Wide Opportunities on Organic Farms (see Chapter 6 of this report of support services).¹⁰

2.5. Regional and Global Value Chains

There are a limited number of qualified organic vegetable producers along the EWEC provinces who are able or willing to export to regional or global markets. Yet participation in global organic vegetable value chains offers the largest earnings potential for producers. As mentioned earlier, the average price of organic vegetables in the United States is more than 140 percent that of conventional produce.¹¹ The products commanding the highest organic price premiums are cabbage, lettuce, onions, broccoli, and mushrooms. Global food retailers, largely in the form of multinational supermarkets, often develop their own standards for outsourcing the production of their vegetable products. They rely on efficient and standardized procurement procedures. For those farmers and processors able to acquire the necessary certifications for their products and meet the standards of those global food retailers, it means the realization of large price differentials between their products and conventional vegetables. It also opens opportunities for expanding their markets across other regional or global food retailers.

Two types of farmers in the EWEC provinces are currently integrated into global organic vegetable value chains. The first is the individual small farmer, an example of which is Suwannabhumi Organic Farm in Phetchabun province. Its products are certified by Good

⁸ The village operates with in collaboration with the Hoi An Government. For details, see <http://hoian-tourism.com/Tra%20Que%20Vegetable%20Village#>.

⁹ See, for example, Vangvieng Organic Farm at www.laofarm.org. The farm is located in the village of Phoudindaeng, near Vang Vieng in Vientiane Province. It was founded by Thanongsi Sorangkoun in 1996 to introduce organic farming methods to the province. There are a variety of projects that center around the organic production of mulberry trees, along with organic fruits, vegetables, poultry, and goat cheese for the on-site restaurant. Mulberry trees provide leaves to produce mulberry tea, mulberry wine, mulberry tempura and mulberry shakes. Wages support the villagers who work there, and profits provide assistance for the community.

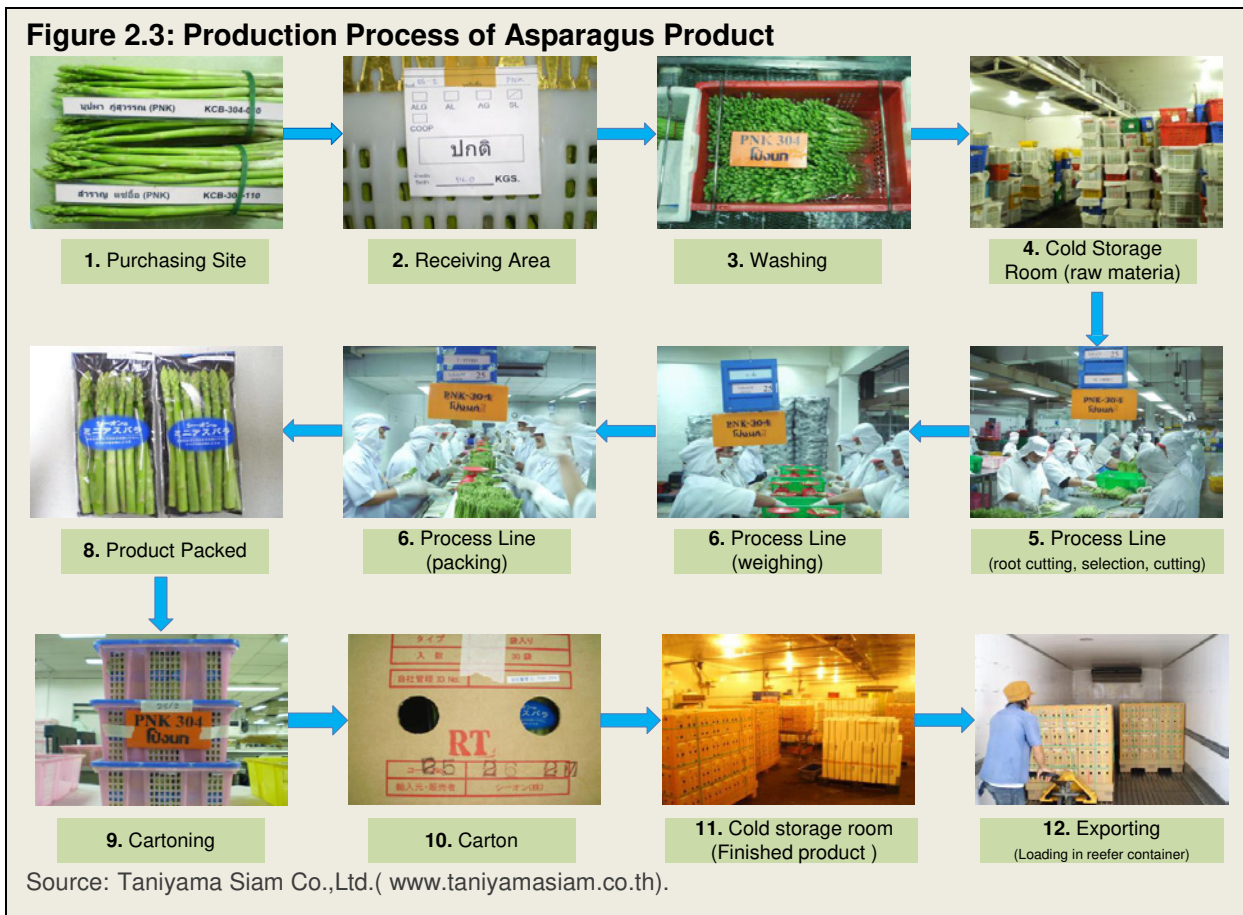
¹⁰ The web site for 'Home-Stay Cottage' is www.thailand-ecotourism.com. Other examples (a) Gerson Thailand Cancer Therapy Moms Organic Farm in Chiang Dao, Chiang Mai province. The web site is <http://mylymeblog.com/?cat=3>; (b) You Sabai Guesthouse and Organic Farm is located in Mae Taeng in Mae Tang province; see www.yousabai.com; (c) Tacompai is a traditional organic farm run by a local Yon family in Mae Hong Son province; see www.tacompai.com; and (d) Santipap Gardens is located in Northeast Thailand on the shores of Ubonratana Dam Lake in Nong Bua Lampoo Province; see www.santipapgardens.com.

¹¹ Based on April 2011 prices in United States, compiled by Rodale Institute. See New Farm Organic Price Report, available: <http://www.rodaleinstitute.org/Organic-Price-Report>.

Agricultural Practices (GAP) for fruit and vegetables by the Ministry of Agricultural, the United States Department of Agriculture (USDA) organic certification, and the BCS Öko-Garantie organic certification, which indicates that the products meet the European Union regulations for organic production. At present the farm's products are being exported to the Scandinavian countries.

The second type consists of contract farmers that supply organic vegetables to a packaging plant whose products are exported. An example along the EWEC is Swift Company, which is one of Thailand's leading exporters of organic fruits and vegetables, and which has a packaging plant in Phetchabun province. It also operates a packaging plant in Pakse, Lao PDR, and is a supplier to leading supermarkets in Japan like as Jusco, Seiyu and Daiei, where strict premium quality and traceability systems are applied. The company has successfully streamlined the value chain through direct contracting with farmers and applied fair trade pricing practices in which farmers are guaranteed prices under annually negotiated arrangements. The company's model has won national and international recognition for its support to the welfare of communities and the improvements that it has brought to their household incomes.

An example of the packaging process for asparagus from Taniyama Siam Co.,Ltd is shown in Figure 2.3. The company's products have certifications for Good Manufacturing Practices (GMP) and Hazard Analysis and Critical Control Point (HACCP). Their contracted farms are also been issued Good Agricultural Practices(GAP) certifications.



Box 2.2: Ban Mor Organic Farmers in Sam Sung District of Khon Kaen (Thailand)

Ban Mor is a community of small farmers in Sam Sung Ampur (district) of Khon Kaen province along the EWEC section of Thailand. Sam Sung's organic produce are well known and well-regarded by retailers. There are ten Ban Mor organic farmers, having a combined farming area of 85 rai (about 14 hectares). They currently produce ten types of vegetables, including cabbage, yard long beans and choy sum. Together they harvest 27 metric ton of vegetables each month.



Growth of Organic Farming

Ban Mor farm was first to produce organic vegetable in Khon Kaen. Its products are Good Agricultural Practices (GAP) certified by the Ministry of Agricultural. This certification allows them to sell their products in Thailand under the organic label (see photos in Annex C). To achieve this type of certification the farm must use organic fertilizers, uncontaminated water, and take special precautions to ensure that the products do not become contaminated.

Household Incomes Show Significant Improvements

Mr. Somjit Paohom is a president of Ban Mor organic farm group. He began cultivating vegetables in 1990 using non-organic methods. In 2000 he switched to organic farming because the local government promoted and supported organic farming in Sam Sung area. Since switching to organic farming, Mr. Somjit and other farmers have seen their household income increase steadily. Today their daily income is between 1,000 and 2,000 baht per household. Moreover, Ban Mor is now well-recognized as a learning and training center for interested farmers from Thailand and neighboring countries.

Organic Products Cannot Meet Market's Demand

The Ban Mor farmers sell their products in the Banglampoo market of Khon Kaen city and Khon Kaen University. Supermarkets and hotels in Khon Kaen have asked Ban Mor farmers to become part of their supply chain. However, existing supplies to the local produce markets are bought out every day, so supplies are not available for other retail outlets. Land limitations prevent the farmers from further expanding their cultivation. Some supermarkets have taken to using the name of Sam Sung on their products to market their products, even though they do not originate from the Ban Mor farmers.

Better Prices Lead to Better Living Standards

Ban Mor usually markup price of their products by 200 to 300 percent over their operating costs. That markup is substantially over that of non-organic farmers, which ranges from 100 to 150 percent. The result has been a much greater improvement in living standards for the Ban Mor organic farmers than those still operating with non-organic methods.

2.6. Vegetable Products in EWEC Provinces

The type of vegetables produced along the provinces traversed by the EWEC are classified as either leafy vegetables or fruit vegetables. Figure 2.4 lists the different types of vegetables produced in the provinces.

Figure 2.4: Types of Leafy and Fruit Vegetables Grown in the EWEC Provinces

Asparagus		Green lettuce	
Basil		Green chili	
Bitter melon		Mint	
Broccoli		Morning glory	
Cabbage		Mushrooms	
Carrots		Okra	
Chinese celery		Red chili	
Chinese Kale		Red lettuce	
Chinese Radish		Spring onion	
Choy sum		Spinach	
Coriander		Tomatoes	
Eggplants		White Aubergine	
Ginger		Yard-long bean	

3. MAPPING KNOWLEDGE AND SUPPORT SERVICES

3.1. Overview

Support services are intended to provide knowledge and information to farmers and other participants in the value chain. They include technical assistance to improve skills and technologies, business development services, product differentiation techniques through branding and marketing, accreditation for organic certification, and market information beyond local outlets.

There is considerable support for organic farming in the EWEC provinces, although more so in Thailand than in Laos and Vietnam. There is nonetheless a general tendency throughout the Corridor for local authorities, international organizations and NGOs to concentrate their technical assistance on the primary (farming) stages of the value chain. This limited focus approach ends up favoring the development of supply chains rather than value chains that add value to the process through processing or product upgrading in packaging, certification, branding and marketing activities. It makes little or no contribution to raising household incomes beyond those of farmers who grow conventional products.

Among individual farmers, especially those in poor rural areas who are largely self-sufficient, the most common complaint is lack of knowledge about how to grow particular types of vegetables. During field visits conducted for this study, farmers who did not operate as part of a producer group often complained about not receiving any advice or technical assistance about fertilization, planting and cultivation, weeding or other growing and harvesting activities.

Among brokers, the major problems center around lack of market information beyond local markets. For wholesalers, the problem is lack of differentiation between organic and conventional produce. Often the difficulty arises because of the absence of both branding and consumer awareness campaigns about food safety. For processors, the challenge is often to find a sufficiently large group of organic farmers in an areas that have the farming knowledge and expertise to provide adequate levels of the right kinds of products.

3.2. Mapping Knowledge Channels

In the EWEC, access to information and knowledge about organic farming methods and market information depends on the following features:

- ✓ The existence of exemplary farmers in the community who can serve as a showcase to others within the community.
- ✓ The mechanisms present within the community to share, maintain and collectively develop skills and knowledge.
- ✓ Existence of needed knowledge and skills to understand the technology and to implement or operate it.
- ✓ The investment requirement for the upgrading farming practices to the levels needed to obtain organic certifications and thereby increase revenues and improve livelihoods.

Box 3.1: Ban Pak Ka Organic Demonstration Farm, Kaisornephomvihan District of Savannakhet

Ban Pak Ka Organic Demonstration Farm in Kaisornephomvihan District of Savannakhet has been operating for the last year with the support of the Department of Agriculture and Forestry, the Asian Development Bank (ADB) and the International Fund for Agricultural Development (IFAD). It is made up of a group of farmers from the local communities, who have shown interest in adopting organic farming practices. The total land area dedicated to organic farming is 1.8 hectares, although not all of it is currently being cultivated.



Farmer Enthusiasm for the Project

The demonstration farm is showing farmers how to prepare soil, make organic fertilizer and pesticide, and harvest the produce. Despite initial misgivings about the benefits of growing organic produce, the farmers now see the benefits to themselves in terms of producing vegetables that require less input costs and are safer to eat. There are 11 households presently participating in the project, and each household is responsible for 40 square wah (80 square meters). A variety of vegetables are being cultivated, including cabbage, green salad, green onions, choy sum and morning glory.

Sharing Knowledge

Farmers receive training and share knowledge from other organic farms in the provinces of Vientiane and Pakse. Mr. Kaew Manu, President of Vientiane Organic Farm Networks, recently visited Ban Pak Ka Organic Demonstration Farm to teach members how to produce organic fertilizer and pesticide. The training not only increased the farmers' knowledge about how to produce inexpensive fertilizers, but it gave them the opportunity to develop networking contacts in other provinces.

Marketing and Distribution

Mr. Thong Sri, President of Ban Pak Ka Organic Demonstration Farm, has helped to launch the groups products in the Lao International Trade Exhibition and Convention Centre (ITECC) in Savannakhet during April 2011. Afterwards, Department of Agriculture and Forestry of Savannakhet is planning to establish an organic vegetable market in Savannakhet in order to promote and sale organic fruit and vegetable to local market and neighboring areas.

Competitive Advantage of Farmers

Like other areas along the Corridor, Daisornephomvihan District has relatively inexpensive labor costs and small plot holdings by households. Switching from high-cost chemical fertilizers to natural fertilizers, while increasing the amount of labor used to grow organic vegetables can lower costs of production for these farmers. In contrast, farmers in more advanced countries have much higher costs per unit of labor and large farms that are often mechanized. For them, increasing labor inputs may not be economically viable. Farmers in the EWEC countries, including those in Daisornephomvihan have a competitive advantage in the production of organic vegetables.

- ✓ Access to the necessary services to upgrade farming practices, introduce appropriate farming methods, and obtain needed certifications.

Farmers along the Corridor who receive information do so in one of the following ways:

- Farms participate in testing and training area operated by local authorities and international organizations supporting farming activities. For example, at the Savannakhet Organic Experimental Site, the Department of Agriculture and Forestry and the International Fund for Agricultural Development (IFAD) are helping farmers to prepare the land for a variety of vegetables, make organic fertilizer and use natural methods to protect the crops from pests. (Photo 3.1).
- Farmers are actively involved in community organizations that regularly meet to share information. For example, in Huay Meg District of Kalasin Province, community farmers from Tambon Kut Don meet regularly to discuss common issues. They recently agreed to dedicate a portion of each of their landholdings to the cultivation of organic vegetables. They also use a common shed to make organic fertilizer (Photo 3.2).
- Farmer are organized into formal or informal cooperatives and sell their produce through a common collector or wholesaler. In Da Nang and Hue there are collective farms where each household operates their own plot of land but shares common tasks with other members of the group, including farming techniques and the use of a common broker to sell their vegetables in the market (Photo 3.3).
- Farmers operated under some form of contractual arrangement with processor or wholesaler.



3.3. Access to Knowledge along the Corridor

During field visits undertaken as part of this study, participants of organic vegetable value chains along the EWEC were asked about their access to knowledge and information through technical assistance to improve skills and technologies, business development services, product differentiation techniques through branding and marketing, accreditation for organic certification, and market information beyond local outlets. The interviews were unstructured in order to allow participants to provide a broad ranging of information about their situation, and without limiting their responses to a structured questionnaire. The

responses were classified and ranked on a scale ranging from 1 (low) to 10 (high), and the results are presented in Table 3.1 and summarized in Figure 3.1.

There are two general observations about the pattern of knowledge and information flows for organic vegetable value chains along the Corridor:

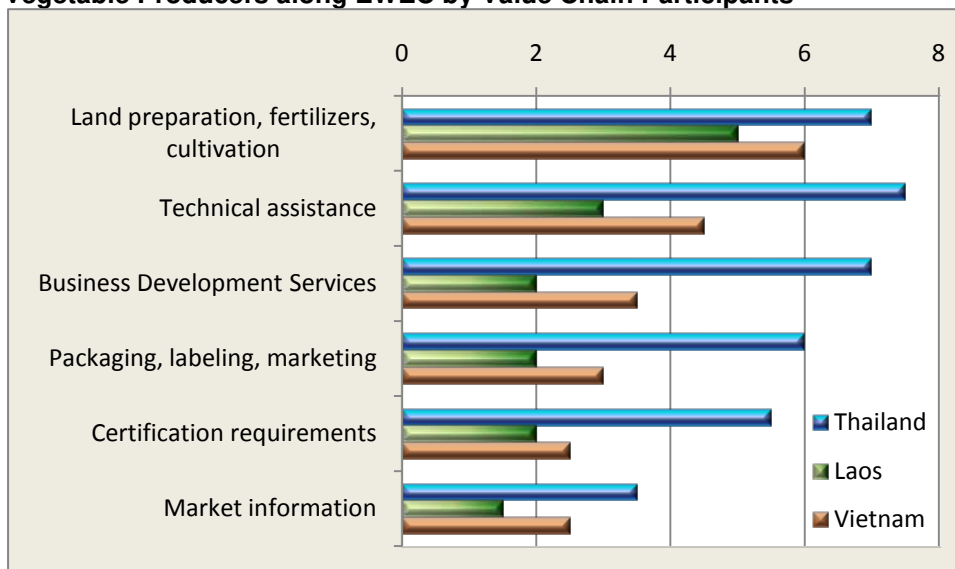
- First, the value chain participants along the Thai provinces of the Corridor have greater access to knowledge and information flows than the other EWEC countries. Participants in Savannakhet in Laos generally ranked the lowest in all categories, the reason being that the process of developing organic farming in the province has only recently started.
- Secondly, information and knowledge is higher in the primary stages of the value chain than in later stages. In fact, the later the stage along the value chain, the lower the rating. This pattern is common to all EWEC countries.

Table 3.1: Perceptions on Level of Knowledge Transfer to Organic Vegetable Producers along EWEC by Value Chain Participants

Availability of Information:	Producer Type:	Thailand	Lao PDR	Vietnam	EWEC Average
Land preparation, including preparation of fertilizers	Individual Households	6	3	5	5
	Producer Groups	8	7	7	7
Technical assistance from local authorities, NGOs and donors	Individual Households	7	1	3	4
	Producer Groups	8	5	6	6
Business Development Services	Individual Households	6	2	3	4
	Producer Groups	8	2	4	5
Packaging and labeling, marketing, and differentiation from conventional vegetables	Individual Households	3	1	2	2
	Producer Groups	9	3	4	5
Certification requirements for national, regional & global markets	Individual Households	4	1	2	2
	Producer Groups	7	3	3	4
Market information, including price movements, beyond local outlets	Individual Households	3	1	2	2
	Producer Groups	4	2	3	3
Average Score	Individual Households	5	2	3	3
	Producer Groups	7	4	5	5
	TOTAL	6	3	4	4

Note: Scoring ranges from low of 1 to high of 10.

Figure 3.1: Summary of Perceptions on Level of Knowledge Transfer to Organic Vegetable Producers along EWEC by Value Chain Participants



Note: Scoring ranges from low of 1 to high of 10.

Specific observations are as follows:

- At the farm level, individual farmers in Savannakhet were most likely to complain about the lack of information being provided to them on how to grow organic vegetables. However, there were similar occurrences in the other EWEC countries as well. Farmer groups generally have much higher access to information, either through external sources or from individual who read about and applied organic farming techniques to their plots and latter demonstrated the method to other farmers within the community. In central Vietnam that process is more formalized among farm cooperatives.
- Technical assistance to farmers is fairly high in Thailand and often extends to individual farmers. There is a large and growing community of organic farmers and associations, whose members are highly dedicated to the promotion of organic activities. There is also a heightened public awareness of food safety in the country through mass media channels. In Vietnam, the Government and private sector have undertaken a number of actions to improve food safety, especially that aimed at securing increased entry into overseas markets. But problems remain because of the lack of a comprehensive model for managing antibiotics and chemical and biological products; low awareness of the food sanitation issues of different stakeholders; and lack of institutional, technical, and financial resources to ensure the sanitation standards. In Laos, organic farming with market linkage has only recently started to become important to Lao agriculture authorities and NGOs as many international development institutions and donor agencies realized the potential opportunities of organic agriculture as poverty eradication. However, the focus of technical assistance for organic farming has been concentrated in the northern provinces and in Champasak.

- Business development services are more accessible along the Thai portion of the EWEC than in other EWEC countries because of the existence of major learning centers, for example, in Phitsanulok and Khon Kaen. A number of faculties are involved in the promotion of agriculture, food safety and organic methods in these centers. Similar learning centers exist in Hue and Da Nang, where a several faculties are also involved in agriculture and food-related areas. Opportunities for developing BDS centers in Savannakhet are explicitly mentioned in the new EWEC Strategy and Action Plan.¹²
- Packaging and labeling activities are fairly well developed in the Thai portion of the EWEC. Branding allows organic products to be differentiated from conventional products, and therefore significant price differentials to be applied when the consumer is made aware of the benefits of safe foods. However, branding in all EWEC countries requires strict conformity to labeling requirements. In Thailand, for example, labeling requirements differ according to the type of certification for the product. They nonetheless generally include essential elements indicating that the organic product has requirements from farm to market. The organic label is therefore a production process claim, rather than simply as product safety or quality claim. For products intended for overseas markets, the labeling requirements vary from country to country.¹³ Certification knowledge and information tends to be similar to that of packaging and labeling, since they are often carried out together.
- Market information services about both pricing and regional or global markets are minimal or non-existent throughout the Corridor. Most of the support given to participants of the organic vegetable value chain along the Corridor is focusing on the primary stage of production. Pricing information is extremely limited, with the results that price differentials between organic and conventional vegetables tend to vary widely (see Chapter 4).

3.4. Upgrading Knowledge along the Corridor

Existing patterns for transferring knowledge and information to participants along the organic vegetable value chains in the EWEC provinces need to be improved upon. Best practices in value chain development for the industry point to the following opportunities for upgrading knowledge and information:

- (1) Focus knowledge transfer and information flows to producer groups, since they have inherent scale economies and networking capabilities that help disseminate know-how and technologies;

¹² ADB, Strategy and Action Plan for the Greater Mekong Subregion East-West Economic Corridor. Available: www.adb.org/GMS/Economic-Corridors/EWEC-SAP.pdf.

¹³ For details of labeling requirements on Japanese organic foods, see JETRO, "What Legal Requirements Apply to Food Labeling". Available: www.jetro.go.jp. In the United States, National Organic Program (NOP) develops, implements, and administers national production, handling, and labeling standards (see [www.epa.gov/agriculture/torg.html#Guidance for Labeling](http://www.epa.gov/agriculture/torg.html#Guidance%20for%20Labeling)). In the European Union, the European Commission regulates the logo and labeling requirements for organic foods (http://ec.europa.eu/agriculture/organic/consumer-confidence/logo-labelling_en).

- (2) Help individual producers, who are often poor households, learn about organic farming techniques through mass media channels and demonstration sites strategically located in areas along the Corridor as a means of targeting poor households and helping them to improve their livelihoods;
- (3) Provide integrated training to cooperatives and other producer groups on the full range of activities along the value chain, rather than limiting information to only production techniques, to ensure that farmers are able to benefit from the full range of market opportunities for organic vegetables;
- (4) Promote the establishment of a centralized organic market information system that monitors organic vegetable prices and offers free or inexpensive access to price quotations in key provincial, national and overseas markets;
- (5) Provide packaging and branding know-how to producer groups to help them differentiate their products and thereby increase the value of organic produce;
- (6) Disseminate information on upstream processing facilities that will support the creation of a cold storage chain, warehouses, distribution facilities and cross-border logistics; and
- (7) Support implementation of Good Agriculture Practices (GAP) for vegetable producers along EWEC provinces to be able to meet national organic certifications, followed by help to implement Hazard Analysis and Critical Control Point (HACCP) for food safety required of food exports to global markets.

Box 3.2: Case Study of Organic Experimental and Training Farms in Khon Kaen (Thailand)

Organic experimental and training farms are operating in Nai Muang and Khao Noi Tambons (sub-districts) in Vieng Kao Ampur (district) of Khon Kaen province. They are being managed under a three-year development plan of the Vieng Kao public administrative office. The area under cultivation covers 20 rai (3.2 hectares) of public land near a community pond, and the farmers are being taught how to cultivate organic vegetable by local experts.



There are currently about 200 households under the program and each is being offered 40 sq.wa by the local administrative office for the district. Among the vegetables being cultivated are cabbage, long bean, green onion, choy sum and morning glory.

Overcoming Water Limitations

While the area is presently limited to 20 rai, the project foresees an expansion to 200 rai (32 hectares). However, the underground water has a high salt contents and is limits the wider cultivation of agricultural products. At present, the amount of production is enough to cover household consumption by the local farmers and sale in the local market. If the water issue can be resolved, the expansion of organic farming in the district would expand greatly since many other farmers have expressed interest in joining the project.

Rising Consciousness about Safe Cultivation Practices

Mr. Thonginn Thangkumgee is a member of the Ban Nai Muang organic farmers group. Under the program and with the assistant of local public health office and Khon Kaen University he has learned how to prepare soil and make organic fertilizers and pesticide. He has also learned about the importance of safe foods, and how to make them through organic agricultural practices.

Plans for Certification

The vegetables cultivated by the farmers in the Ban Nai Muang and Kao Noi organic experimental and training project are consider to be organic. However, they have not yet received any type of certification. Once the project completes its first phase, there are plans to have the products certified under the Good Agricultural Practices (GAP) label of the Ministry of Agricultural.

Improving Living Standards

After two years, farmers taking part in the organic experimental and training program members and others have experienced substantial improvements in their incomes above what they would otherwise have been under non-organic farming practices. In the Ban Nai Muang and Ban Kao Noi local produce markets, organic produce is sold at a markup price of roughly 500 percent over operating costs, compared with a markup price of only 200 percent for non-organic produce. Once GAP certification is received, the project expects demand for the products to grow and for prices received by farmers to rise even higher than their present levels.

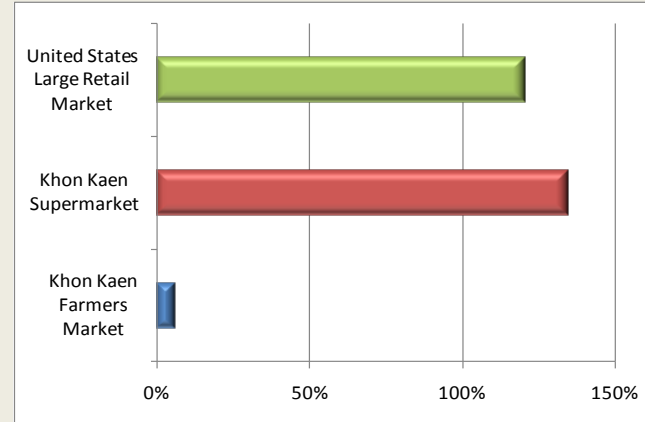
4. MAPPING PRICE DIFFERENTIALS ALONG THE VALUE CHAIN

4.1. Overview

Premium Prices – Organic vegetables are generally sold in retail outlets at higher prices than those of their conventional (non-organic) counterparts. For farmers, these higher prices translate into greater profits since the cost of organic farming is generally lower in the EWEC countries than non-organic farming. The reason is that natural fertilizers are less expensive than chemical fertilizers and pesticides used in conventional farming operations. Although the amount of labor used in organic farming is greater than in non-organic farming, labor costs in the EWEC countries are much lower than in the industrialized countries, which therefore provides these countries with a substantial competitive advantage in the production of organic produce relative to the more developed countries.

Importance of Product Differentiation – Premium prices of organic vegetables in retail domestic and overseas markets can provide a means of expanding incomes and livelihoods for the people in the EWEC provinces (Figure 4.1). However, farmers can only achieve those higher incomes if they are able to differentiate their products from conventional produce. Generally, that differentiation requires certification by local or international authorities, branding and packaging of the products, and marketing and promotion, which in turn requires micro and small farmers to join together in producer groups to achieve the scale of production needed to make product differentiation a cost-effective operation.

Figure 4.1: Percentage Price Differential between Organic and Conventional Vegetables along the Value Chain



Sources: Khon Kaen data collected during field visit week of 14 March 2011. US prices are for organic and conventional vegetables delivered to large distributors based in Los Angeles area. Data for week of 22 April 2011. Source: newfarm.rodaleinstitute.org

When Premium Prices Erode Sales – While premium prices are beneficial to farmers, significant price differentials between organic and non-organic produce can erode market shares. The literature on organic produce often refers to the unfavorable effects of those price differentials on consumption of organic products in the major European and North American markets.¹⁴ However, there is little or no information about the point at which price differentials have a significant negative impact on consumption of organic products. While this issue remains important to importers and retailers in the large overseas markets, it is of little consequence for the farmer groups and packaging plants within the EWEC countries since they are price takers in the market. The prices at which they sell their products are inevitably set by overseas markets and local suppliers are simply ‘price-takers’ in the market. What is important to local suppliers and packaging plants, however,

¹⁴ Amarjit Sahota, “The Global Market for Organic Food & Drink”. In *The Global Market for Organic Food & Drink: Business Opportunities & Future Outlook*. Organic Monitor, December 2010.

is information about organic market prices in their target overseas markets. Otherwise, without that information, they can be subject to contractual arrangements that unfairly favor overseas buyers.

When Premium Price-Setting Becomes Important – Pricing decisions become important to farmer groups and packaging companies in the distribution process within the EWEC countries. The reason is that the organic product market in these countries is small by nearly all standards. Small producer groups and packaging companies can therefore play a greater role in setting prices in local or national markets. In those cases, suppliers need to have much greater knowledge about the vegetable market in general and the organic produce market in particular, since vegetable prices tend to be highly seasonal and variable from day to day. Those sellers that operate effectively in the market have dealers in the major wholesale and retail markets of large urban centers like Ho Chi Min City, Hanoi and Bangkok to provide them with up-to-date information about daily price movements in each type of vegetable product. The sellers of organic produce are then able to set the price premiums of their produce based on what they consider to be appropriate for the current market situation.

4.2. Organic Prices in Local Markets

Lack of Product Differentiation – Generally, the local markets for organically certified products lack differentiation and product branding. Organic products are therefore commonly sold as conventional products without a price premium. Some farmers are attempting to change this situation by exploring opportunities within the expanding tourism areas that are emerging along the Corridor.

Farmers as ‘Price-Takers’ – Most organic farmers sell their products at the farm-gate to local traders. In most villages, farmers have access to only one or two traders. They rarely have access to market price information, and are simply ‘price-takers’. One survey in Laos found that farm-gate price are less than one-half the price paid to traders at the provincial capital markets, with some as low as 10 percent of market prices in the capitals.¹⁵ A minority of farmers are able to transport their products to provincial capital markets to get a better price. In Savannakhet, some traders take their products across to Mukdahan in Thailand.

Table 4.1: Lao PDR Vegetable Price Differentials between Rural and Urban Centers (logarithm of prices)

	Urban	Rural	% Difference
Chinese cabbage	7.84	7.51	4.4%
Long bean	8.06	7.92	1.8%
Cucumber	7.60	7.33	3.7%
Eggplant	7.61	7.48	1.7%
Tomato	8.05	7.95	1.3%
Mushroom	9.07	8.47	7.1%
<i>Average</i>	<i>8.04</i>	<i>7.78</i>	<i>3.4%</i>

Source: Roy van der Weide, “The Variation in Prices for Various Commodities in Lao PDR”. Vientiane, The World Bank. Available: www.economics.smu.edu.sg/events/CV/RoyWeide2009.pdf

Large Pricing Differences – Lack of market price information is one of the major problems for small farmers throughout the EWEC provinces. The problem is even greater for farmers that are located in remote villages. According to one study for the Lao PDR, the average price differential between vegetables in urban and rural areas is not large (Table 4.1). However, remote villages had much large price variations that appeared as ‘outliers’ in the data set. Villages having a larger distance to roads and district centers had much lower vegetable prices, while those having access to daily markets had higher

¹⁵ Helvetas and Department of Agriculture, “Organic Vegetable and Fruit Production in Lao PDR: A Pre-feasibility Study”. Vientiane, 2008.

Table 4.2: Organic and Non-Organic Prices in Local Markets of EWEC Provinces

Market	LOCAL MARKET DISTRIBUTORS								
Country:	Thailand			Lao PDR		Vietnam			
Market	Khon Kaen Farmers Market			Vientiane Farmers Market		Da Nang Farmers Market			
Measure:	US\$ per kilo			US\$ per kilo		US\$ per kilo			
Date:	Week of 14 March 2011			Week of 7 March 2011		Week of 28 March 2011			
Type:	Organic	Conventional	% Difference	Organic	Conventional	Organic	Conventional	% Difference	
Asparagus		3.00				2.7	2.6	4%	
Basil	1.67	1.67	0%			0.744	0.72	3%	
Bitter melon		1.33				0.35	0.34	3%	
Broccoli	1.00	1.67	-40%	2.67	0.93	1.41	1.39	1%	
Cabbage	1.00	0.50	100%		0.4	0.32	0.28	14%	
Carrots		0.67		1.33	0.67	0.65	0.6	8%	
Chinese celery	1.67	1.33	25%						
Chinese Kale	1.67	1.23	35%	2	0.67	1.124			
Chinese Radish		0.47				0.922			
Choy sum		1.33				0.758			
Coriander	1.00	2.00	-50%			0.265			
Eggplants		0.67				0.426			
Ginger	1.00	1.83	-45%			0.68-0.93\$	0.71-0.95\$		
Green chili	3.00	0.87	246%		1.33	1.95	2	-3%	
Green lettuce	1.67	1.67	0%		1.33	0.715	0.725	-1%	
Mint	1.67	1.50	11%			0.62	0.65	-5%	
Morning glory	0.33	0.33	0%		0.4	0.48	0.5	-4%	
Mushrooms	2.00	3.00	-33%			4.29	4.39	-2%	
Onions		0.83				0.8	0.7	14%	
Red chili	3.00	1.17	157%			0.3	0.25	20%	
Red lettuce	1.00	1.17	-14%			0.3	0.25	20%	
Spinach		0.67		5.33		1.125	1	13%	
Spring onion	1.33	1.00	33%						
Tomatoes	0.50	0.83	-40%	2.67	0.27	0.336	0.433	-22%	
White Aubergine	0.33	0.53	-38%		0.33	0.217	0.313	-31%	
Yard-long bean	1.67	2.00	-17%			0.877	0.9	-3%	

Source: Data collected during field visits.

prices. Lack of access to markets was found to significantly reduce incentives to trade vegetables since that activity was considered as having a high risk by farmers.

Improving Market Access – To overcome this problem in Savannakhet, the ADB has funded a number of feeder roads for National Road 9 of the EWEC traversing the province. Nine feeder roads with a total length of 177.5 km were completed. With an orientation toward reducing rural poverty, the feeder roads aimed to improve rural communities' access to road improvement works on RN9. These access roads covered about 101 villages with a population of about 45,500. In addition to infrastructural improvements, improvement in logistics has facilitated road travel and reduced the time for delivery to provincial markets and large urban centers. Those improvements that relate to cross-border trade have been largely associated with the implementation of the GMS

Cross-Border Transport Agreement (CBTA), which has helped to streamline formalities and reduce non-physical barriers to trade.¹⁶

Organic Pricing Differences – Table 4.2 shows the price differences in local markets along the EWEC in Thailand and Laos, as well as Vientiane in Laos. On average, organic vegetables in local Thai markets are 18 percent higher than their conventional counterparts. The range of price differences are, however, considerable. Some organic prices like green chili are 2.5 times higher than non-organic ones, while several organic products have prices that are below conventional ones. In Vietnam, the average price differential is minimal (2 percent), but the average obscures individual product prices differences that range from a high of 20 percent for organic red chili and red lettuce, to prices for some organic products like organic white aubergine and tomatoes that are considerably lower than non-organic counterparts.

4.3. Organic Prices National Markets

Premium Pricing in Thailand – Significant price premiums for organic vegetables are apparent in Thai supermarkets and hypermarkets like Big C in Khon Kaen (Table 4.3). There, the price of organic vegetables is, on average, 134 percent higher than that of the same non-organic produce. Premium prices exist for all organic produce, but the range of price differentiation is large, ranging from a low of 8 percent to some product prices that are nine times higher than their non-organic counterparts (notably, ginger and onions). Other products with significant price premiums are mushrooms, Chinese kale, morning glory, coriander, red lettuce and red chili. Those with low premiums are white aubergine, spring onion, Chinese radish and eggplants.

Premium Have Yet to Emerge in Vietnam – Organic and non-organic produce have similar prices in Vietnam's supermarkets and hypermarkets. In Da Nang's Metro hypermarket, the average price of both product types were virtually identical. Among individual products, four organic products were priced significantly lower than their non-organic counterparts (white aubergine, tomatoes, morning glory and yard-long beans). Excluding those outliers, prices of organic products ranged from a low of -4 percent to 7 percent of their non-organic counterparts.

Need for Improved Pricing Strategy – Thailand and Vietnam have yet to develop appropriate marketing and pricing strategies for organic produce. This situation reflects a mixed consumer preference for organic produce. Food safety concerns are higher in Thailand than in Vietnam, which is reflected in the willingness of Thai consumers to pay premiums for those types of products. Nonetheless, Thai consumers share a common mismatching of product preferences and product pricing with Vietnamese consumers. Informal interviews conducted with both groups indicate that a significantly higher share of Thai consumers purposely look for organic vegetables when shopping, while the proportion of Vietnamese consumers explicitly shopping for organic produce is much lower. Both nationalities, however, share mixed pricing views: about one-third of those consumers looking for organic produce were willing to pay premiums, but a significant share were also looking to pay less for organic produce than for non-organic produce.

¹⁶ For details on how the CBTA has impact on the EWEC, see ADB, Strategy and Action Plan for the Greater Mekong Subregion East-West Economic Corridor. Available: www.adb.org/GMS/Economic-Corridors/EWEC-SAP.pdf.

Table 4.3: Organic and Non-Organic Prices in Large Retail Markets

Market	LARGE RETAIL DISTRIBUTORS									
Country:	Thailand			Vietnam			United States a/			
Market:	Big C in Khon Kaen			Metro Hypermarket			[unspecified; see footnote 'a']			
Measure:	US\$ per kilo			US\$ per kilo			(see details on row)			
Date:	Week of 14 March 2011			Week of 7 March 2011			Week of 22 April 2011			
Type:	Organic	Conventional	% Difference	Organic	Conventional	% Difference	Organic	Conventional	% Difference	Quantity
Asparagus	10.33	6.23	66%	2.75	2.65	4%	37.5	26.0	44%	No. 11
Basil	8.00	6.00	33%	0.76	0.75	1%	11.0	4.5	144%	12 count
Bitter melon	6.50	2.50	160%	0.36	0.35	3%				
Broccoli	5.43	2.17	151%	1.43	1.42	1%	31.0	11.0	182%	14 count
Cabbage	1.83	1.30	41%	0.35	0.33	6%	44.0	13.0	238%	No. 40
Carrots	2.10	0.83	152%	0.70	0.65	7%	37.5	24.0	56%	24 x No.2
Chinese celery	9.03	4.00	126%				47.0	12.0	292%	24 count
Chinese Kale	2.63	0.67	295%	1.01						
Chinese Radish	1.63	1.40	17%	0.89			40.0	14.0	186%	24 count
Choy sum	4.83	2.83	71%	0.72						
Coriander	26.67	8.00	233%	0.21						
Eggplants	3.17	2.67	19%	0.40						
Ginger	5.33	0.53	900%	0.98	1.00	-2%				
Green chili	13.33	5.00	167%	2.20	2.23	-1%				
Green lettuce	10.67	4.67	129%	0.80	0.82	-2%	38.0	22.0	73%	24 count
Mint	6.67	5.00	33%	0.68	0.71	-4%				
Morning glory	4.83	1.33	263%	0.53	0.60	-12%				
Mushrooms	5.33	1.07	400%	4.76	4.86	-2%	26.0	12.0	117%	No. 5
Onions	10.17	0.97	952%		0.80	-100%	38.0	11.0	245%	No. 5
Red chili	13.33	5.00	167%		0.40	-100%				
Red lettuce	6.50	2.17	200%		0.40	-100%	38.0	22.0	73%	24 count
Spinach	2.40	1.67	44%		1.25	-100%	40.0	24.0	67%	24 count
Spring onion	4.43	4.00	11%				38.0	11.0	245%	48 count
Tomatoes	4.73	2.00	137%	0.39	0.49	-20%	43.0	30.0	43%	2 layers 4x5
White Aubergine	3.07	2.83	8%	0.21	0.30	-32%	16.0	12.0	33%	No. 20
Yard-long bean	7.83	4.17	88%	0.90	1.00	-10%	36.0	15.0	140%	No. 25

Source: Data for Thailand and Vietnam collected during field visits. Data for US market Organic prices are for vegetables delivered to large organic distributors based in the Los Angeles area. Conventional prices are from the Los Angeles terminal market. Los Angeles was chosen for its wide range of organic and conventional products. Data for week of 22 April. Source: newfarm.rodaleinstitute.org

Overcoming Marketing Mismatches – The findings in Thailand and Vietnam point to both the lack of consumer education about food safety issues (particularly in Vietnam) and, more importantly, the absence of a well-designed marketing strategy on the part of organic food producers. In general, marketing involves the promotion of information about certification, pricing and nutritional values. In all EWEC countries, the narrow organic market means that individual producers have some degree of price setting power, despite their relatively small size. High premiums are unwarranted since organic agriculture requires a lower amount of costly inputs and therefore have lower production costs. The advantages from lower production costs can be passed along to the buyer as a marketing strategy of reducing prices to reasonable premiums and thereby increasing the quantity of organic produce demanded by consumers.

4.4. Organic Prices Export Markets

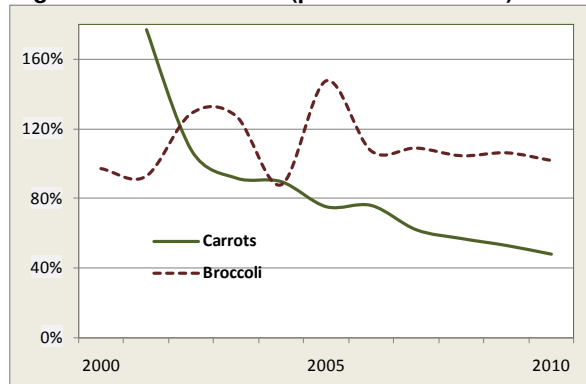
Premium Organic Pricing – The average price premium for organic produce in the large retail outlets of the United States is 136 percent, similar to that of the large representative Thai retail outlet discussed in the previous section (Table 4.3). Individual product premiums are, however, more rationalized than in Thailand. In the United States they range from a low of 33 to 44 percent for products like white aubergine, tomatoes and

asparagus, to high premiums of 240 to 300 percent for items like cabbage, onions and Chinese celery.

Reversing Negative Pricing Perceptions

– In the past, North American and European consumers ranked pricing practices as the largest disincentive to buying organic.¹⁷ In fact, high prices have been of greater concern to both North American and European consumers than to those in Asia, according to one large survey on worldwide organic consumption patterns.¹⁸ This perception is beginning to decline as price differentials for some products narrow

Figure 4.2: Price Premiums of Selected Organic Vegetables in US Market (percent difference)



Source: Data provided by Organic Food Business News and National Agricultural Statistics Service, U.S. Department of Agriculture.

and health and environmental concerns increase (Figure 4.2). Consumers are willing to pay more for products that are environmentally friendly, fair trade products, free of Genetically Modified Organisms (GMO), and branded products.¹⁹

Growing Opportunities for EWEC Country Exports

– The demand for organic products is substantial and growing in the North American and European markets. Pricing policies in these markets are better rationalized than in the emerging markets of Asia, which can provide EWEC. European farmers, however, are less adept at implementing organic practices because of their higher labor costs. Initial efforts to subsidize organic farming in countries like Spain have failed because of government spending cutbacks following the Global Financial Crisis. Lower labor costs in the EWEC countries provides organic vegetable producers with a large competitive advantage in the US and EU markets. What is needed is for the industry to organize farmers into efficient sized producer groups able to respond to the demand for products with high growth markets, and for the government to facilitate that process through streamlined certification processes that address the import requirements in the US and EU markets.²⁰

¹⁷ See, for example, Sylvie Bonny, “Organic Farming in Europe: Situation and Prospects”. Paris, 2006. Available: www.notre-europe.eu/fileadmin/IMG/pdf/Bonny_Agrbio-EN.pdf

¹⁸ ACNielsen, “Functional Food & Organics. A global ACNielsen online survey on consumer behaviour and attitudes”. New York, 2005. Available: it.nielsen.com/trends/2005_cc_functional_organics.pdf.pdf.

¹⁹ TNS Sofres, 2006. Sondage sur l'alimentation réalisé pour l'ANIA (National Association of the Food Industries) [Survey on Food Consumption conducted for ANIA] set before the first convention of the Food Industry. Paris, 2006. Available: www.tns-sofres.com/_assets/files/200308_ania_r.pdf.

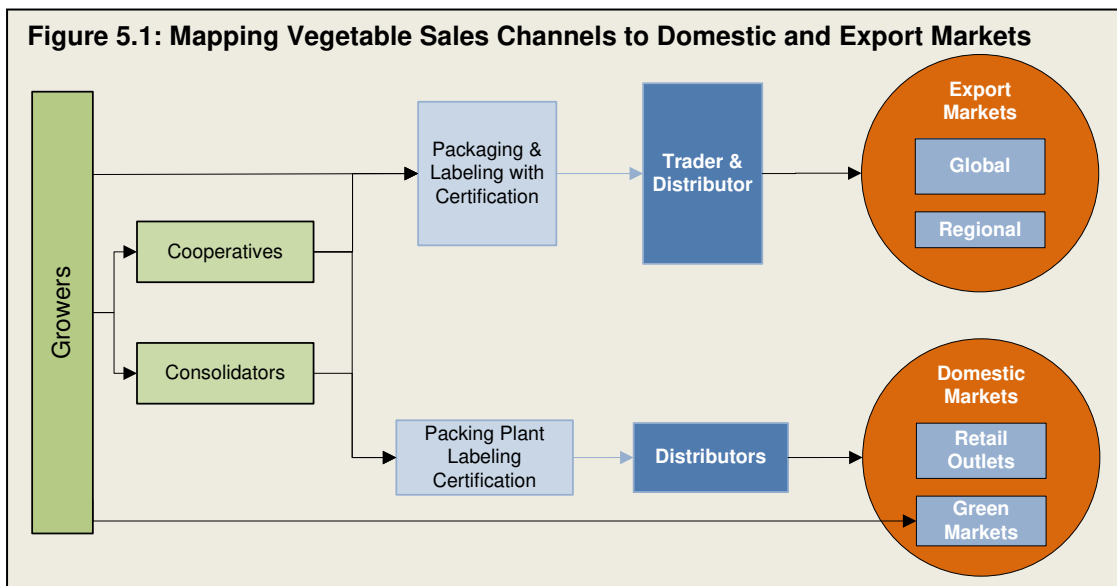
²⁰ Those requirements are readily available to the public. See <http://exporthelp.europa.eu> for the EU market, and www.aphis.usda.gov/favir for the US Fruits and Vegetables Import Requirements (FAVIR)

5. MAPPING MARKETS AND PRODUCT FLOWS

5.1. Overview

Organic vegetable value chains require some degree of product differentiation from produce found in the local green markets. Figure 5.1 maps the sales channels for the domestic and export markets for organic vegetables with packaging and labeling processes.

- In the domestic market, the key participants are supermarket chains, retail shops, and green markets. Supermarket chains are increasingly taking over the roles played by green markets and wholesale markets.
- In the export market, effective cooperation is essential, both horizontally between producers who work at the same business level and vertically between participants in different stages of the value chain.
- Certification bodies are involved at all levels of the chain by inspecting and certifying organic production, processing and trade to ensure product quality in the end markets (see Chapter 7).



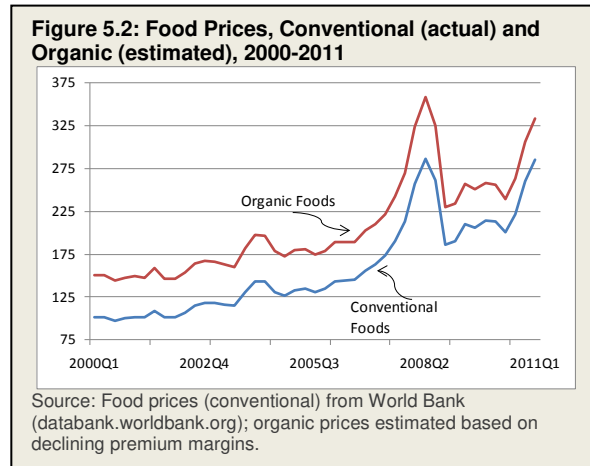
The following characterizes the markets for organic vegetables from the EWEC countries:

Domestic Markets: market growth is concentrated in higher income groups and urban centers because of rising consumer awareness about food safety and the rise in cancer and other chronic diseases.²¹

²¹ The Lancet (January 2011) documents Southeast Asia's dramatic epidemic of chronic diseases, now responsible for 60% of deaths in the region. According to the study, one of the major behavioral risk factors that predict the rising diseases is inadequate intake of vegetables and fruits. The study points out that, "Although many areas in the region are not yet urbanized, consumption of fruit and vegetables is low in southeast Asia. More than 80% of the population consumes fewer than five servings of fruits and vegetables per day." It points out that, "more than 74% of the rural population of Thailand and Vietnam...do not consume sufficient fruit and vegetables. Corollary to

Global Markets: Consumption of organic foods worldwide has increased at double-digit rates, with total sales having trebled over the last decade. In 2010 the global market for organic foods and drinks reached US\$60 billion, up by a multiple of 3.5 times what it was a decade earlier.²² That growth parallels an overall expansion in demand for agricultural products that is outpacing supplies, creating shortages and rising prices (Figure 5.2).²³

EU and US Markets: Demand for organic products is concentrated in Europe and North America, with the two regions accounting for 96 percent of global sales. The countries with the largest markets are the United States, Germany and France; the countries with the highest per capita consumption are Denmark, Switzerland and Austria. The European Union as a whole consumes almost US\$19 billion of organic products, while the United States spends another US\$18 billion on organic food products. Both of those markets are heavily dependent on imports of organic products. In Germany, for example, the share of total consumption that originates from foreign suppliers is 90 percent for sweet peppers, over 80 percent of tomatoes, and nearly 50 percent of all other vegetables.²⁴



like Latin America, where countries like Argentina, Mexico and Uruguay dedicate an average of nearly 4 percent of their arable land to organic farmland (Figure 5.3). In Asia, both China and India have the most organic agricultural land in the region. China has 1.85 million hectares, or 0.34 percent of its agricultural land, while India has 1.18 million hectares, equivalent to 0.66 percent of its arable land. In contrast, Thailand dedicates only 0.15 percent of its agricultural land to organic cultivation (29,597 hectares), Laos dedicates 0.22 percent (4,878 hectares), and Vietnam dedicates 0.14 percent (14,012 hectares).²⁵

these data, an increase has been noted in calorie intake from sources such as sugar-sweetened beverages, whose companies represent substantial economic interests in the region.” The study is available at <http://www.thelancet.com/journals/lancet/article/PIIS0140-6736%2810%2961506-1/fulltext>.

²² Organic Monitor, “The GLOBAL Market for ORGANIC Food & drink: Business Opportunities & Future Outlook (3rd Edition).” Available: www.organicmonitor.com.

²³ According to the Asian Development Bank, those price rises are threatening to shift an additional 64 million people in the Asian region into poverty. See ADB, “Soaring Food Prices Again Threaten to Push Millions of Asians into Poverty”. Available: <http://www.adb.org/documents/reports/global-food-price-inflation/>.

²⁴ Based on data available in IFAOM-FiBL, The World of Organic Agriculture, 2011. Available: www.organic-world.net.

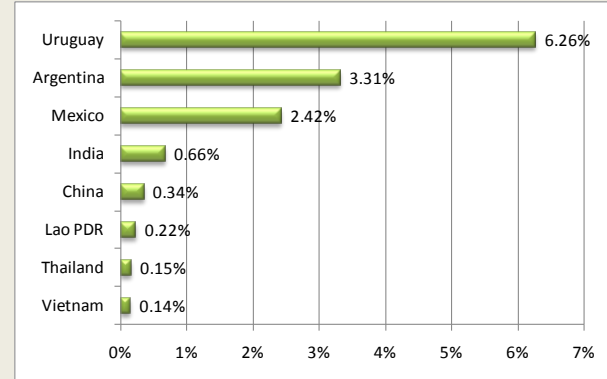
²⁵ Based on data from IFAOM-FiBL, The World of Organic Agriculture, 2011. Available: www.organic-world.net.

5.2. Domestic Markets

5.2.1. Thailand

Rapid Expansion: In 2010 the Thai domestic market for organic agricultural products was valued at US\$80 million, which is three times greater than the market only five years earlier.²⁶ Growing interest in 'safe foods' has motivated much of the market gains after high levels of pesticide residues were found in conventional foods.²⁷ Nonetheless, the market share of organic vegetables in the country has not reached its potential because of consumer confusion over safe food and organic labels.

Figure 5.3: Share of Organic Cultivation in Total Agricultural Land, 2009



Source: IFOAM-FiBL, *The World of Organic Agriculture, 2011*. Available: www.organic-world.net

Leading Producers: Thailand is one of the leading producers of organic products in the Asian region. Some of the major organic food companies are:

- ✓ Top Organic Products and Supplies – Owned by STC Group conglomerate.
- ✓ Rangsit Farm – Major producer of organic fruit and vegetables.
- ✓ Green Net – Largest co-operative of Thai organic farmers, exporting mainly to Europe.
- ✓ River Kwai International – Leading exporter of organic canned vegetables, mainly to the United States and Europe.
- ✓ Swift – Leading exporter of organic fresh produce and some frozen products.
- ✓ Thai Organic Agri – Organic fresh produce and other products.
- ✓ Taniyama Siam Company Ltd – Leading exporter of asparagus and okra to Japan, Korea, Taiwan, Vietnam, Australia, South Africa, France, Germany and United Kingdom.

Distribution Channels: Most organic products are sold through supermarkets, along with smaller organic specialty stores. Large retail outlets include:

- Big C
- Carrefour
- Tesco Lotus
- Giant
- Metro
- Central Food Retail (Tops Marketplace and Food Hall supermarkets)

The Villa supermarkets also have a wide organic product range. These supermarkets and hypermarkets operate under modern supply chains, well-developed cold storage facilities, efficient handling techniques and high standards for product quality. They generally prefer to deal with large organic producers or distributors who can provide a broad spectrum of produce throughout the year.

²⁶ Based on information provided by the Department of Export Promotion of the Ministry of Commerce of Thailand.

²⁷ The study was conducted in Bangkok, based on information provided by 848 respondents to a questionnaire. See B. Roitnerschobesberger et al., "Consumer perceptions of organic foods in Bangkok, Thailand". *Food Policy* 33:2, 2008.

5.2.2. Lao PDR

Early Development: The domestic market for organic products in Lao PDR is small, but with a strong potential as ‘food safety’ grows in importance. Lack of branding and packaging prevents producers from earning premium prices. In Vientiane there is a small semi-weekly supported by Helvetas and the Ministry of Agriculture (Figure 5.4). However, that program ends in 2011 and its sustainability is in doubt. Other markets exist in Vang Vieng, Luang Prabang and Pakse, primarily supporting the local farmer markets and the hospitality sector. Growth of the hospitality sector in Savannakhet offers additional domestic market potential.

Large Potential: The Lao PDR has a higher proportion of land dedicated to organic agriculture than many other Asian countries (Figure 5.3), labor costs are low, land is relatively free of chemical fertilizers and pesticides, and farmers are receptive to new farming methods that could improve their livelihoods. The elements of success are clear: (i) consolidating primary activities of producers through farm cooperatives; (ii) introduction of transport refrigeration equipment for medium to long-distance travel to major subregional and global markets; (iii) implementation of certification, packaging, branding to ensure premium organic prices; (iv) packaging and distribution centers in major producing areas; and (v) a consolidated and sustained program supported by the Government and development partners.

Figure 5.4: Organic Weekend Market in Vientiane



5.2.3. Vietnam

Early Development: The market for organic products is in a relatively early stage of development in Vietnam. The first efforts to apply safe food standards occurred after a number of food scares from inappropriate application of pesticides. Vegetable farmers across the country now received training on safe vegetable production and integrated pest management (IPM). Large supermarkets and hypermarkets like Metro and Big C throughout Vietnam are focusing on the distribution of safe vegetables. In terms of organic products, Vietnam purchases about one-half the total volume of organic products consumes annually from foreign sources.²⁸

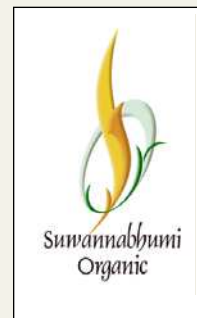
Strong Prospects: The prospects for organic vegetables in the domestic market are strong:

- The country has a large consumer base of over 90 million, whose per capita income growth has increased by around 5 percent a year in the last decade.
- The growing affluence of the urban population, coupled with rising incomes, allow a larger proportion of consumers to buy premium priced organic vegetables.
- Continued concerns over excessive use of pesticides is a strong motivation force for the knowledgeable consumer to buy organic products.

²⁸ Estimates reported in Global Organic Market Access (GOMA), “Scoping Study for Equivalence and Harmonization of Organic Standards and Technical Regulations in the Asia Region”. Food and Agriculture Organization of the United Nations (FAO), International Federation of Organic Agriculture Movements (IFOAM), United Nations Conference on Trade and Development (UNCTAD), 2010.

Box 5.1: The Case of a Fully Certified Organic Farm in Phetchabun (Thailand)

Suwannabhumi Organic Co., Ltd operates a small size farm in Phetchabun province along the EWEC section of Thailand. Of its total area of 150 rai (24 hectares), about 30 rai (nearly 5 hectares) are currently being cultivated for the production of organic vegetables, with 11 full-time workers. The Suwannabhumi organic farm currently produces 30 kinds of vegetables and will soon expand into fruits and hydroponic organic vegetables. Examples of some of the farms' produce are chili peppers, yard long beans, sweet and baby corn, okra, lemon grass, sweet basil, eggplants, and ginger. Total production is currently at roughly one ton of vegetables a month.



Internationally Recognized Organic Certification

The farm's products are certified by Good Agricultural Practices (GAP) for fruit and vegetables by the Ministry of Agricultural, the United States Department of Agriculture (USDA) organic certification, and the BCS Öko-Garantie organic certification, which indicates that the products meet the European Union regulations for organic production. To achieve full organic status, the farm has to produce its own organic fertilizers, access uncontaminated water, and take special precautions to ensure that the products do not become contaminated (see photos in Annex A).

Marketing Organic Products

In addition to operating the farm, the company's owner and president, Ms. Ketsara Supattarapahirapol, runs an organic restaurant in Khon Kaen. Her intent is to attract and educate the local population and tourists about the benefits of safer and more nutritious foods than their non-organic counterparts. Following her own learning process on how to operate an organic farm, she trained her workers on the preparation of the soil, fertilizer, water, cultivating and packing of organic products. She now also provides training to interested farmers and other individuals willing to spend time on the farm and learn the ways of organic farming.

Reaching European Buyers

Ms. Ketsara markets her organic products at the annual Food Trade Exhibition in Bangkok. In the first year alone, she received enquiries from over 150 buyers. However, capacity limitations prevent her from supplying all orders. At present she limits her distribution to the domestic market and a distributor for the Scandinavian countries. Her pricing policy is not market based. Instead she uses a uniform markup of about 100 to 300 percent over her operating costs, depending on the season.

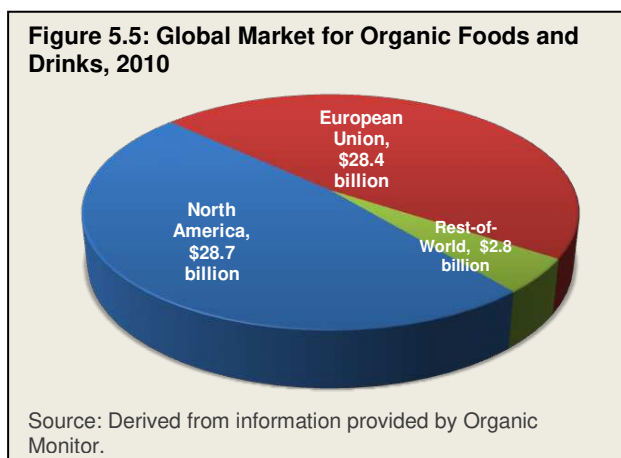
Opportunities for Further Expansion into Foreign Markets

The company's major limitation to expanding production is the lack of skill manpower needed to operate the farm at the strict standards required of internationally recognized products originating from organic farms. The other challenge is development of networks of products and services need to successfully support the organic industry.

5.3. Regional and Global Markets

The largest international organic vegetable markets are in Europe and North America. Distance issues are being overcome through processing methods like canning and freezing, as is being done by Thai companies like River Kwai International. Regional markets in East Asia, namely, Korea, Japan, Taiwan, Singapore and China, are excellent target markets because of existing trade linkages and proximity. The recent food contamination scares in China may also motivate more Chinese consumers to buy organic food, which would open that market to greater import volumes from the EWE countries. There are also immediate opportunities for cross-border trade between the EWE countries. However, if these opportunities are to be exploited, then product quality, reliability of supply, adequate quantities, certification and sanitary and phytosanitary (SPS) issues will need to be addressed.

North American Market – North America has overtaken the European Union as the largest market in the world. Notwithstanding large organic farmlands in the United States, there remains a large shortage of domestic supplies. To benefit from this situation, Latin America has dedicated increasing tracts of land to organic farming and become a major supplier to the US market. Asian countries are also taking advantage of improved logistics and distribution systems to drive an increasing share of their products to that market.



The European Market: The European Union (EU) market for organic products is growing at double-digit growth rates, especially in Germany and the United Kingdom. The proportion of EU organic farmland far exceeds that of any developing regions, but output levels are still insufficient to meet growing domestic consumption. Importers are particularly keen to broaden their supply base in order to meet demand and ensure continuous supplies at consistent quality levels. Of particular interest to importers is baby corn, asparagus, coriander, basil leaves, peppermint, spring onions, lemon grass, morning glory, chili and long bean.

Thailand's Opportunities in the EU Market – Thailand already exports many of the high-growth products and with the appropriate certifications. In fact, all EWE countries produce vegetables with exotic tastes that are attracting interest in Europe. For products to be sold directly to supermarkets, branding and packaging are important issues. Since Thailand is well known and well regarded by Europeans, producers in Laos could expand supplies of fresh vegetables to Thai packaging plants that export to the EU market.

A Note on International Vegetable Trade – International trade data is based on the Harmonized System (HS) classification of 6-digit code for over 5,000 products. However, it does not differentiate organic from conventional product trade. The data presented for vegetable trade in this chapter therefore refers to products in both their organic and non-organic forms.

5.3.1. Thailand

Exports – Although Asia (China, in particular) is Thailand’s major export market (Table 5.1), organic agricultural products tend to be mainly directed to European countries, followed by Japan, the United States and Singapore. Major organic fresh vegetables that are currently being exported are:

- ✓ baby corn
- ✓ green okra
- ✓ lettuce
- ✓ tomato
- ✓ Chinese greens
- ✓ asparagus
- ✓ green pepper
- ✓ cassava
- ✓ cilantro
- ✓ kale
- ✓ basil

Thailand exports processed vegetables in the form of frozen baby corn and baby corn in glass, and herbs such as Indian mulberry.

Imports – Thailand imports between 10 and 30 percent of the total amount of organic products that it consumes annually.²⁹ Under existing proof of labeling rules, imported organic products must be compliant with Thai national organic standards to use the Thai word for ‘organic’ in the product label. If compliance is not attained, the products can nonetheless be sold as organic using the original foreign labels that include the term ‘organic’.³⁰

5.3.2. Lao PDR

Cross-Border Trade – Cross-border trade between Laos and Thailand or Vietnam does not show any commerce in vegetables. Yet field visits to the EWEC border areas show that there is an active amount of trade in products like garlic (Lao imports from Vietnam, which is mainly re-exported to Thailand). Trading companies in Savannakhet are managing re-exports to Vietnam and Thailand. Small-scale traders also carry agricultural products across the Mukdahan-

Table 5.1:
Thailand Trade in Fresh & Frozen Vegetables in 2009 (US\$)

	Imports	Exports	Balance
World	187,044,545	857,719,230	670,674,685
Asia	161,891,580	740,068,700	578,177,120
China	111,844,816	583,349,453	471,504,637
Japan	379,418	92,418,600	92,039,182
India	163,258	14,409,643	14,246,385
Other Asia, nes	88,223	14,319,020	14,230,797
Indonesia	9,348,321	8,522,843	(825,478)
Singapore	1,320	7,055,738	7,054,418
China, Hong Kong	283	5,261,296	5,261,013
Cambodia	17,118,125	4,011,148	(13,106,977)
Other Asia	22,947,816	10,720,959	(12,226,857)
European Union	3,181,499	44,427,109	41,245,610
United Kingdom	2,066,305	17,120,879	15,054,574
Netherlands	429,489	8,196,823	7,767,334
Germany	44,030	6,972,750	6,928,720
Other EU	641,675	12,136,657	11,494,982
North America	13,670,141	24,660,331	10,990,190
Canada	7,881,442	5,029,511	(2,851,931)
USA	5,788,699	19,630,820	13,842,121
Australia & New Zealand	6,803,292	6,648,933	(154,359)
Australia	4,415,873	5,184,715	768,842
New Zealand	2,387,419	1,464,218	(923,201)
Other	1,498,033	41,914,157	40,416,124
Rep. of Korea	8,201	16,163,708	16,155,507
Malaysia	347,607	10,032,173	9,684,566
Switzerland	253,564	4,685,893	4,432,329
United Arab Emirates	45,549	4,144,655	4,099,106
Other	843,112	6,887,728	6,044,616

Source: United Nations, COMTRADE database. Online comtrade.un.org.

²⁹ Estimates reported in Global Organic Market Access (GOMA), “Scoping Study for Equivalence and Harmonization of Organic Standards and Technical Regulations in the Asia Region”. Food and Agriculture Organization of the United Nations (FAO), International Federation of Organic Agriculture Movements (IFOAM), United Nations Conference on Trade and Development (UNCTAD), 2010.

³⁰ Gunnar Rundgren, “Asia organic standards in the making”. Available: www.organicstandard.com

Savannakhet (Thailand-Lao PDR border) and Lao Bao (Lao PDR-Vietnam border). The flow is predominantly from Vietnam into Laos for either sale to local markets in Dansavanh or export to Thailand through informal channels. These activities are important to the local livelihoods of people in Savannakhet.³¹

Table 5.2: Thailand Trade in Fresh and Frozen Vegetables in 2009 (Kilograms and US\$)

	Imports			Exports		
	Volume	Value	Unit Price	Volume	Value	Unit Price
Asparagus	25,604	41,277	1.61	9,473,876	17,540,210	1.85
Onions	65,682,962	15,866,485	0.24	42,947,464	9,502,534	0.22
Mushrooms (excl. "Agaricus")	2,280,670	2,863,293	1.26	3,758,984	5,512,311	1.47
Leguminous vegetables	37,872	33,406	0.88	1,739,836	1,748,945	1.01
Mushrooms ("Agaricus")	337,352	505,287	1.50	782,477	1,374,394	1.76
Carrots & turnips	58,112,793	28,043,906	0.48	14,499	8,010	0.55
Potatoes	28,222,910	12,437,914	0.44	601,962	291,488	0.48
Cauliflowers & broccoli	17,728,842	9,759,556	0.55	332,719	197,144	0.59
Garlic	10,555,568	8,940,955	0.85	248,413	321,241	1.29
Cabbage	19,305,836	4,148,814	0.21	1,083,669	315,750	0.29
Seed potatoes	4,344,646	3,534,101	0.81	238,500	210,129	0.88
Peas	5,075,441	1,881,922	0.37	1,404,224	641,293	0.46
Cabbage lettuce	2,334,581	809,019	0.35	1,212,548	353,500	0.29
Beetroot & radishes	1,692,238	456,102	0.27	414,199	126,267	0.30
Other vegetables		2,713,237			65,732,577	

Source: United Nations, COMTRADE database. Online comtrade.un.org.

Exports – Countrywide trade data for vegetable is reported in Table 5.3 and is based on so-called mirror trade data, namely, trade reported by trading partners. The information does not differentiate between trade destined to and from the country and transit trade between neighboring countries like Thailand and Vietnam. The main vegetable export of Laos is garlic, which accounts for three-fourths of total reported overseas sales of vegetable products. Nearly 90 percent of that product is sold to Vietnam. The two other important exports are onions and carrots. Three-fourths of all vegetable exports are

Table 5.3: Lao PDR Vegetable Imports and Exports (incl. re-export and re-imports) in 2009 (US\$)

HS Code	Product	IMPORTS					Total	EXPORTS			
		China	Ireland	Japan	Poland	Thailand		China	Vietnam	Thailand	Total
70190	Potatoes, fresh or chilled						-	63			63
70200	Tomatoes, fresh or chilled				2,928		2,928				-
70310	Onions, fresh or chilled						-	54,213	323,502		377,715
70320	Garlic, fresh or chilled					467	467	294,028	2,012,719	468	2,307,215
70410	Cauliflowers & broccoli, fresh or chilled				2,959		2,959				-
70490	Cabbage, fresh or chilled				2,931,348		2,931,348			1,623	1,623
70610	Carrots & turnips, fresh or chilled				12,252		12,252	360,821			360,821
70690	Beetroot & radishes, fresh or chilled					207,663	207,663				-
70810	Peas, fresh or chilled					999	999				-
70890	Leguminous vegetables, fresh or chilled						-			19,095	19,095
70920	Asparagus, fresh or chilled						-			358	358
70951	Mushrooms, fresh or chilled				6,505		6,505				-
70990	Other vegetables, fresh or chilled	19,988		21,790			636			88	88
	Total	19,988	-	21,790	21,685	3,144,072	3,207,535	709,125	2,336,221	21,632	3,066,978

Source: United Nations, COMTRADE database. Online comtrade.un.org.

³¹ Montague Lord, "Impact of the EWEC on Development in Border Provinces Case Study of Savannakhet Province in Lao PDR". Manila, Asian Development Bank, October 2010.

directed to Vietnam and another 23 percent is directed to China. Exports of vegetables to other countries are minimal.

Imports – The major import is cabbage, accounting for over 90 percent of reported imports. All imports of that product originate in Thailand.

Box 5.2: Case Study of Collaboration among Ban Kut Don Organic Farms in Kalasin (Thailand)

Ban Kut Don is a village with a group of organic farmers in Hauy Mek Ampur (District) of Kalasin province along the EWEC section of Thailand. The group comprises 38 households having a combined farming area of 14 rai (2.2 hectares) from which they produce groundnut (peanuts). They would like to cultivate more of this and other organic products, but do not have sufficient water. As a result, they have agreed among themselves to limit their production to about 150 kilogram a month.

Rising Incomes from Organic Farming

Mr. Tipmanee Raomara is a president of the Ban Kut Don organic farm group. He began producing vegetables in 1997 and two years ago switched to organic groundnut cultivation after he read a book about self-sufficient economics by King Bhumibol, who encourage Thai farmer to become self-sufficient. Mr. Tipmanee now divides his 32 rai of land into five uses: (i) 6 rai for rice, (ii) 1 rai for organic groundnuts, (iii) 13 rai for organic mangos, (iv) 10 rai for cassava, and (v) 1 rai for housing. Since going organic, Mr. Tipmanee's earnings have increased substantially, averaging 1,500 baht per month from just the organic products that he cultivates.

Spreading Organic Farming in the Community

The Ban Kut Don farmers group holds meetings on the tenth day of every month. There are five committees covering production, agriculture development, finance, coordination with suppliers and distributors, and marketing. The 100 members of the group include not only the 38 groundnut producers but also other farmers in the village. In the meeting of 10 March 2011 members agreed to dedicate one rai of each of their land holdings to the production of organic rice cultivation. The objective of the program is to promote products that address consumers' concerns about safe food, and thereby shift to organic agriculture and improve the living standards of the Kut Don village households.

Adding Value to the Product

The Ban Kut Don farmers sell their groundnuts to a processor in Kalasin that combines them with organically produced herbs to make an organic herbal groundnut cracker. The organic label on the product is appealing to the local population that has a preference for healthy products. The result is increased demand and better pricing for the product relative to other types of snacks and energy foods.



5.3.3. Vietnam

Vegetable Trade – Vietnam is a net exporter of fresh and frozen vegetables. Its major trading partner is China, which absorbs three-fourths of vegetable exports and supplies two-thirds of their imports into Vietnam (Table 5.4). Other important market destinations are the more developed Asian economies of Korea, Japan and Singapore. On the import side, Cambodia is the second largest supplier of vegetables to the country. In Europe, the major export markets are Italy, France and Germany. Vietnam is a net importer of fresh vegetables from the United States.

Trade with Laos and Thailand - Trade with Laos and Thailand is small (about 1 percent of total vegetable trade). Informal trade, however, is important, although traded levels are unknown.

Traded Products – The country's major exports are onions, cabbage, garlic, mushrooms and leguminous vegetables like green beans and peas (Table 5.5). The most important imports are garlic, onions and carrots.

Prospects – Vietnam could become a major exporter of organic vegetables through the consolidation of farmers into cooperatives. At present, the fragmented production base for processing and packing is the major constraint to exports.³²

Table 5.4:
Vietnam Trade in Fresh and Frozen Vegetables in 2009
(US\$)

Country	Imports	Exports	Balance
World	99,044,177	393,644,143	294,599,966
Asia	90,237,155	376,454,061	286,216,906
China	65,040,107	295,368,138	230,328,031
Rep. of Korea	388,048	27,655,622	27,267,574
Japan	478,286	16,677,426	16,199,140
Other Asia, nes	148,698	15,162,423	15,013,725
Singapore	22,231	7,208,424	7,186,193
Indonesia	581,044	5,424,617	4,843,573
Lao PDR	86,683	2,445,276	2,358,593
Malaysia	114,158	2,312,494	2,198,336
Cambodia	21,905,600	1,678,354	(20,227,246)
Thailand	975,497	1,189,203	213,706
Other Asia	496,803	1,332,084	835,281
European Union	355,723	11,649,744	11,294,021
Italy	39,330	5,248,740	5,209,410
France	158,892	2,217,674	2,058,782
Germany	41,377	1,099,569	1,058,192
United Kingdom		787,527	787,527
Belgium	43,721	740,244	696,523
Netherlands	40,681	638,691	598,010
Other EU	31,722	917,299	885,577
USA	4,666,290	1,879,147	(2,787,143)
Other Countries	3,785,009	3,661,191	(123,818)

Source: United Nations, COMTRADE database. Online comtrade.un.org.

Table 5.5: Vietnam Trade in Fresh and Frozen Vegetables in 2009 (Kilograms and US dollars)

	Imports			Exports		
	Volume	Value	Unit Price	Volume	Value	Unit Price
Onions	23,665,899	13,015,360	0.55	16,630,127	6,025,599	0.36
Cabbage	2,062,689	1,650,151	0.80	3,673,845	3,098,208	0.84
Garlic	11,180,433	14,000,742	1.25	2,679,836	3,065,663	1.14
Leguminous vegetables	335,329	644,636	1.92	1,381,266	2,155,592	1.56
Mushrooms ("Agaricus")	1,571	5,170	3.29	460,240	1,445,220	3.14
Carrots & turnips	14,549,355	8,521,899	0.59	236,789	123,331	0.52
Potatoes	9,220,607	4,701,953	0.51	1,446,420	645,769	0.45
Other vegetables		6,612,132			4,734,490	

Source: United Nations, COMTRADE database. Online comtrade.un.org.

³² Nguyen Thi Tuyet Mai and Mai The Cuong, "Fruit and Vegetable Sector Export Strategy". Project VIE/61/94 Support to Trade Promotion and Export Development in Vietnam Sector Export Strategy – Export Marketing Guidelines. Submitted to Trade Promotion and Export Development Project Vietnam Trade Promotion Agency, MOT, May 2009.

6. MAPPING SUPPORT SERVICES

6.1. Overview

The three major sources of support for organic agriculture along the EWEC are the government authorities, NGOs and private organizations. While there is focused technical assistance and other support activities for farmers in the Corridor provinces, support for later stages of the value chain such as processing and export is mainly through broader national programs. This section briefly highlights the types of support directly or indirectly impacting the organic vegetable value chain along the EWEC provinces and gives references to where further information is available to the interested reader.

6.2. Government Support

6.2.1. Thailand

The Government of Thailand promotes organic agriculture through major extension and training programs, a certification program, a marketing campaign, and export promotion.

- *Training, Marketing Campaigns and Export Promotion:* The National Agenda for Organic Agriculture was established in 2005 to help 4.25 million farmers use organic inputs instead of agro-chemicals. The objective has been to cut imports of agrochemicals by one-half their 2005 level, and to double exports of organic products. The program includes various supports and intervention mechanism, including seminars, training, general promotion, and setting up organic fertilizer factories. The Land Development Department coordinates six ministries involved in the program.³³
- *Certification Program:* Certification generally includes national standards and accreditation procedures for certification bodies. Thailand's national organic standards are drawn from the Codex Alimentarius and the International Federation of Organic Agriculture Movements (IFOAM), but are adapted to local conditions. Although not recognized internationally, products with the Government's certification are sold in local supermarkets and purchased by corporations like Thai Airways.

6.2.2. Lao PDR

The Ministry of Agriculture and Forest (MAF) has supported organic agriculture through several channels:

- *Integrated Pest Management (IPM):* The Ministry has a long history of promoting IPM, and newly also ICM (integrated crop management) concepts aimed at promoting an ecological approach to significantly reduce the use of pesticides, while concurrently managing pest populations at an acceptable level.
- *Bio-fertilizer factories:* Various factories have been set up throughout the country.
- *Pesticide-free zones* have selected three zones that are to remain free of pesticides and chemicals: the Boloven Plateau in the south, Vangvieng area in the centre and Luang Prabang in the northern part of the country.

³³ Information on the Thai government's support to organic agriculture is available at <http://www.nia.or.th/organic/>.

Box 7.1: An Organic Vegetable Network in Kalasin Province (Thailand)

The Kalasin Organic Vegetable Network was started three years ago by the Kalasin provincial government as part of a planning program for cooperative activities by farmers. Within that short period of time, the network has grown to include 500 households with 16 networks in 20 Tambons (sub-districts) of 14 Ampurs (districts). It now has a combined farming area of 125 rai (20 hectares), producing several kinds of vegetables like cabbage, mint, yard long beans, green onions and aborigine, certified by GAP (Ministry of Agricultural), which allows them to be sold in the domestic market under an organic label.



Networking Support from Several Sources

The success of the networks are due to strong support from a number of sources. They include the Kalasin Public Health Office, the Kalasin Chamber of Commerce, and the Provincial Office of Agriculture. Financial resources are also provided by the Kalasin Provincial Government and the Thai Health Promotion Foundation.

Demonstrating the Benefits of Organic Farming to Others

Mr. Vinit Tidphanaj, president of the Kalasin Organic Vegetable Network, was a former agriculture officer who become a farmer and now operates his farm as a testing and learning center. He cooperates with 16 networks and government agencies to implement organic farming program. He also operates the Kalasin Organic Learning Center for farmers interested in becoming organic producers. The program cover organic farm management, soil preparation and improvement, organic fertilizer preparation, organic pesticide preparation and information networking. It aims to strengthening the competitiveness of Kalasin organic fruit and vegetable farmers in both the domestic and international markets.

Marketing and Distribution

Widespread concerns about food safety has been stimulated by television and written media in Kalasin and elsewhere in Thailand. As a result, there is a strong and growing market for organic fruit and vegetables in Kalasin, so local produce is readily bought up in the local markets. This situation has given rise to shortages of organic produce from supermarket, hotel and restaurant owners who have tried to source their produce from farmers. At present, the groups of organic producers sell their products to local wholesalers with a 100 percent markup over their operating costs, while the wholesale generally apply a 50 percent markups when selling to retailers.

Opportunities for Expansion through Additional Networking Channels

Total production of vegetables by the Kalasin Organic Vegetable Network is 30 tons a month. The farmers face water limitations, adequate knowledge about planting techniques and proper packaging systems. Addressing these issues could lead to major capacity improvements and the ability of the farmer groups to better address the strong demand for their products.

- *Collaboration with Helvetas* in supporting organic agriculture and promoting bio-pesticides, although this project is scheduled to close at the end of 2011.

6.2.3. Vietnam

The Government of Vietnam established Good Agricultural Practices in 2008 for production of fresh fruit and vegetables under its 'VietGAP' program.

- The Ministry of Agriculture and Rural Development oversees the program through its umbrella "Food Safety" program, which includes the Department of Science & Technology's GAP regulations for production of safe fresh products, and the Vietnamese Academy of Agricultural Sciences' guidelines for implementing VietGAP for Vietnamese fresh vegetables producers.
- VietGAP covers food safety, environmental management, worker health, safety and welfare, and produce quality.

6.3. NGO Services

6.3.1. Thailand

Thai Health Promotion Foundation (website: <http://en.thaihealth.or.th>). In Khon Kaen, the organization has funded the Safe Vegetable Project to create an integrated system for safe vegetable production. It supports media information to promote safe foods and good nutrition among the general population.

Green Net (website: www.greennet.or.th). Green Net is a Thai social enterprise that is working to promote sustainable agriculture by providing fair-trade market access to producer groups producing organic products. Its Green Net Cooperative is one of the largest organic producers and wholesaler in Thailand. Their products originate in eight farmer groups in the northern, northeastern and central regions of Thailand. All their products are organically produced, and all certified either under IFOAM Accreditation Programme, EU Regulations, USDA National Organic Program, or Canadian Organic.

GTZ (www.gtz.com). GTZ and the Thai Organic Trade Association (TOTA) implemented a two-year program on the "Promotion of Thai Organic Fruit and Vegetable Industry" in mid-2009. The project aimed to increase the number of certified organic fruit and vegetable farms and producers, as well as to expand exports of Thai organic fruits and vegetables to the international market. The project targeted a 20 percent expansion in Thai exports to the EU market. Over 300 farmers have participated in the project.

6.3.2. Lao PDR

Helvetas (Swiss Association for Development Cooperation; website: www.laosorganic.com). Since 2004 Helvetas has been supporting the organic vegetable value chain in Laos through the following activities: (i) supporting the creation and adoption of new Lao Organic Standards; (ii) supporting producers in the production of organic products; (iii) creating an organic farmers market in Vientiane; and (iv) the gradual development of regional and international markets for organic products.

International Trade Centre (ITC; website: www.intracen.org). ITC provides assistance to strengthen Lao's capacity to supply organic agricultural products, develop linkages between producing communities and the tourism sector and expand the provision of business support services to the provinces with a particular focus on financial

management. It carries out its support through inter-agency programs in which ITC will work on capacity-building in trade policy and development.

International Fund for Agricultural Development (IFAD; website: www.ifad.org). In Savannakhet, IFAD is supporting an organic test site for farmers through a project whose aim is to achieve more efficient and sustainable natural resources management and improvement of agricultural productivity that part of the country. The project also encourages poor farmers to join farmer organizations and producer associations increase their efficiency and to make them more attractive to potential investors.

6.3.3. Vietnam

ADB Making Markets Work Better for the Poor II (website: www.markets4poor.org). Making Markets Work Better for the Poor, Phase 2 is funded by the Asian Development Bank (ADB) and the UK Department for International Development (DIFD). It aims to increase participation of the poor in value chains by providing competitive matching grant basis for private enterprises that propose innovative new business models in agribusinesses to engage the poor on a sustainable basis.

Netherlands Development Organization (SNV; www.snvworld.org/en/countries/vietnam). SNV's Smallholder Cash Crops program aims to help 450,000 persons by the end of 2012 through its support to (a) black cardamom value chain development in northern Vietnam; (b) development of the dried longan value chain in Son La province; (c) support of the sedge value chain; (d) green tea value chain development in northern Vietnam; and (e) value chain development for acacia trees in central Vietnam.

Food and Agriculture Organization of the United Nations (FAO; www.fao.org). The objective of FAO's Organic Agriculture Programme is to enhance food security, rural development, sustainable livelihoods and environmental integrity by building capacities in organic production, processing, certification and marketing.

Helvetas (website: www.helvetas.ch/Vietnam). Helvetas promotes organic agriculture and fair-trade in cocoa. The project covers the development of production systems for organic cocoa developed for selected provinces; organization of value chain participants to produce and market certified organic cocoa; and policy support for the industry. The project has expanded from 22 demonstration farmers in 2009 to over 400 farmers that have converted to certified cocoa production.

Agricultural Development Denmark Asia (ADDA-VNFU; www.adda.dk/eng/organic_eng). The ADDA-VNFU Organic Project was the largest organic agriculture development project in Vietnam from 2004 to 2010. It improved organic agriculture in the areas surrounding Hanoi.

UNCTAD-SIPPO BioTrade Facilitation Program (website: www.biotrade.org). The BioTrade Facilitation Programme of UNCTAD and the Swiss Import Promotion Programme (SIPPO) has the following goals: (a) promote exports of food and pharmaceutical ingredients produced by Vietnamese companies to the European market; (b) guide selected Vietnamese companies in the implementation of tailor-made work plans in order to upgrade their production practices and to trade products derived from a sustainable use of biodiversity; (c) assist selected exporting or potential exporting companies in adapting their products to market requirements; and (d) facilitate the formulation and implementation of a sector strategy on the national level in coordination with other related national activities.

6.4. Private Organization Support

6.4.1. Thailand

Thai Organic Trade Association (www.thaiorganictrade.com). The association was founded in 2005 to promote organic products in Thailand by helping consumers to become aware of organic products and to expand its markets. Members consist of private companies involved with certified organic production and trade.

Southeast Asia Organic Co., Ltd (www.sea-organic.com). The company supports the development of organic farming in various parts of Thailand, including cassava roots cultivation in Nakorn Ratchasima Province, near the EWEC provinces. In developing these training programs, it collaborates with the Land Development Department, Ministry of Agriculture of Thailand; Bioagricoop, an Italian NGO; and four national and foreign universities.

Organic Agriculture Certification Thailand (www.ioas.org). Organic Agriculture Certification Thailand was the first certification body based in Asia to become accredited by International Foundation for Organic Agriculture (IFOAM).³⁴

6.4.2. Lao PDR

Swift Co. Ltd (www.thaifreshproduce.com). The company is working with the Food and Agriculture Organization of the United Nations (FAO) to develop organic asparagus, baby corn and other vegetables a 45 rai (7.2 hectares) model farm that can serve as an incentive for other farmers in the area. Production from Pakse is being supplied to a packing house in Phanat Nikhom in the Thai province of Chon Buri, and some of the packaged products are sold abroad.

6.4.3. Vietnam

Vinafruit (www.vinafruit.com). Provides support to the industry through information dissemination about new technologies and innovations, domestic and international market trends, prices, and industry forecasts. It also helps to promote commerce through trade fairs, international study tours, and opening representative offices abroad. With the help of USAID, it initiated the “Tien Giang GAP program” under which Good Agricultural Practices (GAP) procedures are benchmarked.

³⁴ The International Federation of Organic Agriculture Movements (IFOAM) is the worldwide umbrella organization for the organic agriculture movement, uniting more than 750 member organizations in 108 countries. Information available at: www.ifoam.org.

7. MAPPING THE ORGANIC CERTIFICATION PROCESS

7.1. Overview

Why Certify? – The ultimate objective of organic certification for producers is that it allows them to differentiate their product and its identification as a high value product for consumers. As demonstrated in Chapter 4, the price differentials between organically certified and conventional produce can be substantial and, without that certification, price differentials are nonexistent. Certification therefore provides a means of increasing farmer incomes and, for producers, it offers a channel for accessing high-end food markets both in domestic and export markets. For the consumer, it increases nutritional levels, improves the taste of foods, and reduces exposure to pesticides. In the value chain the certification process encompasses the activities of seed and fertilizer suppliers, farmers, food processors, traders, retailers and those involved in the hospitality industry (restaurants and hotels).

What is Accreditation? – Accreditation is a procedure by which an authoritative body evaluates and gives formal recognition that a certification program is in accordance with the standards of the authoritative body. For organic agriculture, certification bodies can apply the voluntary international standards and/or the national mandatory standards and be accredited by the related "authority". At international level, the International Organic Accreditation Service (IOAS) accredits certification bodies according to the International Federation of Organic Agriculture Movements (IFOAM) accreditation program criteria by delivering the "IFOAM Accredited" logo. IOAS is an independent NGO that ensures global equivalency of certification programs and attempts to harmonize standards, taking into consideration local differences. It must be noted that membership of IFOAM by certifying bodies does not constitute IOAS accreditation. At the national level, governments or national accreditation bodies accredit certification bodies operating in their country, if their country has organic agriculture legislation. Both private and public bodies adhere to the International Organization for Standardization basic standards for accreditation of certifiers (ISO 65) in addition to their specific requirements.

How is Certification Obtained? – Organic certification standards vary, but they generally involve production standards for growing, storage, processing, packaging and shipping that include: (a) avoidance of most synthetic chemical inputs in fertilizer and pesticides, genetically modified organisms (GMOs), irradiation, and the use of bio-solids; (b) use of farmland that has been free from synthetic chemicals for a number of years (often, three or more); (c) keeping detailed written production and sales records (audit trail); (d) maintaining strict physical separation of organic products from non-certified products; (e) undergoing periodic on-site inspections.

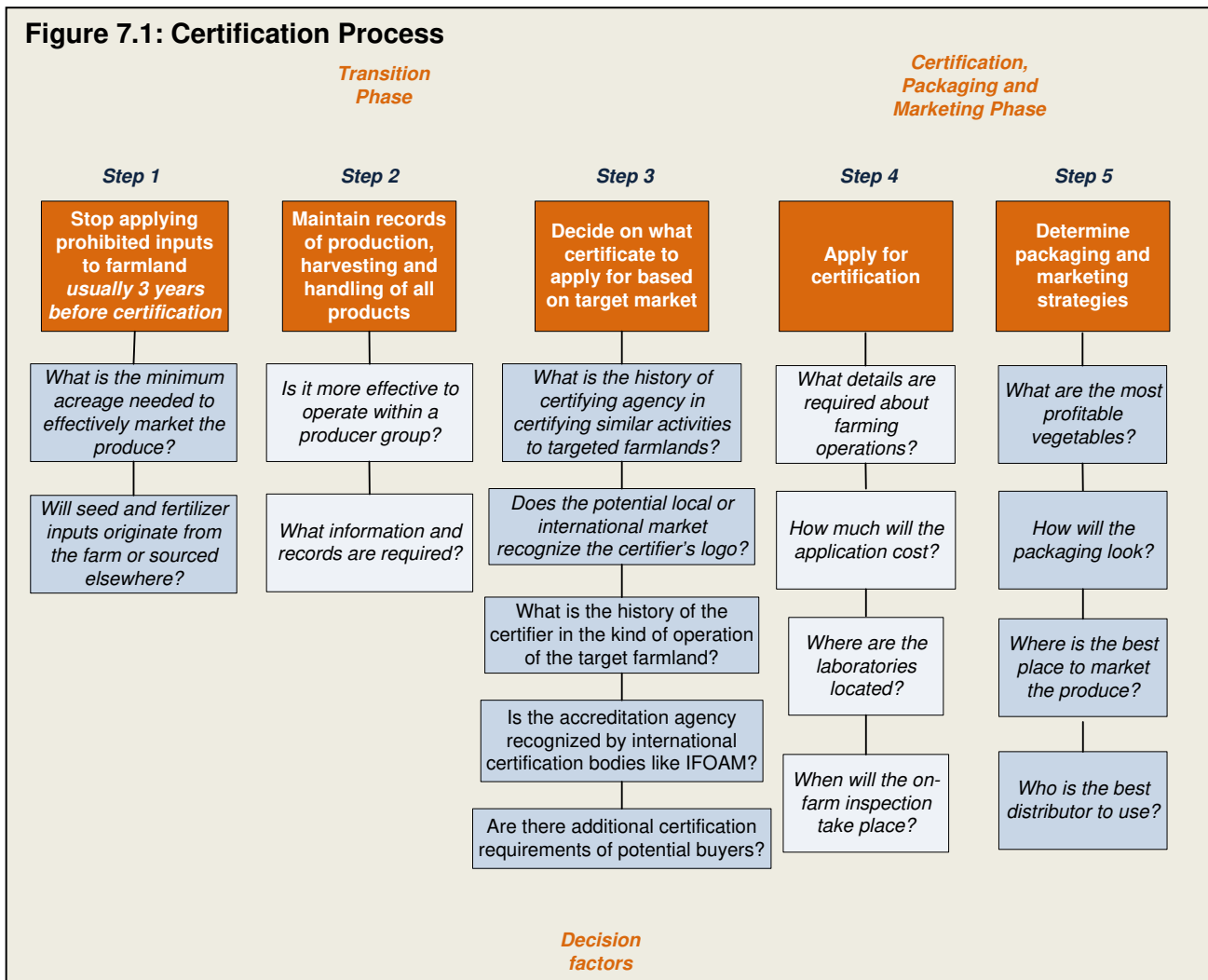
Where is the Certification Shown? – The label on the packaging of an organic product indicates that a product has been certified against specific organic standards. The label carries the name of the certification body and the standards with which it complies. To the informed consumer, this label can function as a guide. Certification bodies evaluate operations according to different organic standards and can be formally recognized by more than one authoritative body. The label of a given certification body, therefore, informs the consumer on the type of standards complied with during production and processing as well as on the type of recognition granted to the certification body.

7.2. Certification Procedure for Farmers

Transition and Implementation Phases – There are a number of practical steps to follow in the certification process. Figure 7.1 shows the ones that are normally followed by farmers who have obtained certifications in the EWEC countries. Once a decision has been made to produce branded organic produce, one of the most important decisions will be how to proceed through the certification process. This decision requires the farmer to examine only production, harvesting and processing decisions, but marketing and distribution issues as well. Unless the farm size is reasonably large, the best approach will be to use a producer group to achieve the minimum or optimal production and distribution size for the targeted market. As mentioned in Chapter 5, the producer group can be horizontally integrated among similar farmers from a given area, or vertically integrated through contract farming with a processing and packaging company.

Steps to Organic Certification During Transition – The general guidelines for farmers to obtaining certification are as follows:³⁵

1. Discontinue prohibited inputs to the farmed land, including salt soluble products, urea, sewage sludge, and synthetic insecticides, fungicides and herbicides. The required period of time is usually three years.



2. Keep records of the land being transitioned into organic farmland, including information about the production, harvesting, and handling of all products that are or that are intended to be sold, labeled, or represented as organic.
3. Choose a certifying agency based on the target market for the product. Deciding factors are (a) the history of the certifying agency in dealing with organic vegetable production in the target farmlands; (b) recognition of the potential local or international market of the certification logo; (c) certifying agency's history in certifying your kind of organic farming; (d) accreditation of certifying agency by international certification bodies, such as the International Federation of Organic Agriculture Movements (IFOAM); (e) additional certification requirements of potential buyers; and (f) costs of certification in terms of time and money.

Certification, Packaging and Marketing – The application procedure for organic certification usually requires the completion of a questionnaire detailing information about the farming operations. Some of the applications can be costly in terms of the time and money required to complete the process. For that reason, it is important, at the onset, to obtain all the necessary information about costs and procedures from the certifying agency. Once obtained, the producer is ready to market the organic product. A business plan should have been prepared well in advance of the distribution process so that branding, marketing, logistics and distribution strategy effectively penetrate the targeted market.

7.3. Certification Agencies in Thailand

There are three types of certification bodies offering organic certification services for producers in Thailand: (i) the Thai government, (ii) Thai private entities, and (iii) foreign entities.

- **Government Certification:** The government organization responsible for implementing the regulatory framework for organic agriculture is the National Bureau of Agricultural Commodity and Food Standards (ACFS). It is responsible for issuing accreditation of Good Agricultural Practice (GAP), Good Manufacturing Practice (GMP), Hazard Analysis and Critical Control Point (HACCP), and the accreditation of laboratories. For organic products, it is responsible for the National Standards for Organic Agriculture (NSOA), which covers organic production, processing, labeling, and product sales. Rather than setting production standards, the NSOA sets the guidelines for standard-setting organizations. In 2005 ACFS accredited the first standards-setting organization in Thailand, named the Organic Agriculture Certification Thailand (ACT).
- **Domestic Private Certification:** Organic Agriculture Certification Thailand (ACT; website: www.actorganic-cert.or.th) is an independent private certification body. It is the only Thai-owned organic certification body offering internationally-recognized organic certification services. It is accredited by the International Federation of Organic Agriculture Movements (IFOAM), with the support of the International Organic Accreditation Services (IOAS)
- **Foreign-Owned Private Certification:** There are numerous foreign certification services operating in Thailand. One of the most important ones is BCS Öko-Garantie GmbH (www.bcs-oeko.com). It provides certify according to the following standards and regulations on (i) EU Regulation on organic agriculture; (ii) National Organic Programme (NOP) of the United States Department of Agriculture; and (iii) Japanese Agricultural Standard of Organic Products (JAS). It also provides inspections for

Figure 7.2: Organic and Other Certifications for Foods in Thailand

 <p>Q Certification</p>	<p>The Q mark stands for "Thai Quality Product" and is approved by the National Bureau of Agriculture Commodity and Food Standard (ACFS) under the Ministry of Agriculture and Cooperatives. It signifies that the produce has passed GAP, GMP, HACCP, and/or organic standards from planting and harvesting to packaging.</p>
 <p>ACT Certification</p>	<p>ACT focuses on certification services to small-holder producers through the grower group certification with the internal control systems which operates fully in line with IFOAM Norms on smallholder certification. It certifies a wide range of tropical fruits and out of season vegetables such as baby corn, asparagus. ACT run one certification program covering crop production, processing, wild products, input manufacturing and smallholder groups. Organic Agriculture Certification Thailand has been granted IFOAM accreditation.</p>
 <p>Organic Thailand</p>	<p>The National Bureau of Agriculture Commodity and Food Standard (ACFS) issues the certification to those products that are both chemical free and GMO free.</p>
 <p>Green & orange certification</p>	<p>The Department of Medical Sciences of the Public Health Ministry issues the logo featuring a green vegetable against orange background, indicating that the product contain an appropriate amount of chemical residue. There is no indication of the planting process.</p>
 <p>Food Safety certification</p>	<p>'Safe Food' is a new label introduced by the Thai Government. It is based on standards that have been agreed by both the Ministry of Public Health and The Ministry of Agriculture and Cooperatives. The standards for 'safe food' are not as strict as for 'organic food'; farmers are allowed to use chemical fertilizers and pesticides, but tests are carried out to make sure that residues do not exceed the 'maximum residue level'. Certificates are issued to the farmers and food suppliers whose products pass these tests.</p>

various private standards like Naturland, Demeter, Bioland, GÄA and Biokreis. Other International certification bodies with a presence in Thailand are (a) Soil Association (UK) covering certified organic products for EU markets; (b) IMO (Switzerland/Germany) covering certified organic products for EU markets; (c) OMIC (Japan) covering certified organic products for the Japanese market; and (d) Skal (Netherlands) which contracts P&H Agrocontrol Inc. to certify organic production for the EU market.

Certifications – Figure 7.2 shows the various organic and safe food certifications currently used in Thailand. The Codex Alimentarius and International Federation of Organic Agriculture Movements (IFOAM) guidelines are minimum standards for organic agriculture,

intended to guide governments and private certification bodies in standard setting. They set the standards for all foods on the production, processing, labeling and marketing of organically produced foods to guide producers and protect consumers. The standards are for handling, storage, processing, packaging and transportation of products, as well as substances permitted in the production and processing of organic foods.

Q-Scheme: Each certification varies somewhat in its requirements and certification process. For example, the Government of Thailand's "Q" scheme defines eight control points, their requirements and how to inspect them. These control points refer to water source, cultivation site, use of agricultural hazardous substances, product storage and on-site transportation, data records, production for disease and pest-free products, management of quality agricultural production and harvesting and post-harvest handling. The National Bureau of Agricultural Commodity and Food Standards (ACFS) is the accreditation body, while the Department of Agriculture provides certification and implementation functions. To apply for the certification, the following steps are required:

Step 1: Farmers submit their application form and relevant documents to their local Office of Agricultural Research and Development (OARD) which carries out the inspection.

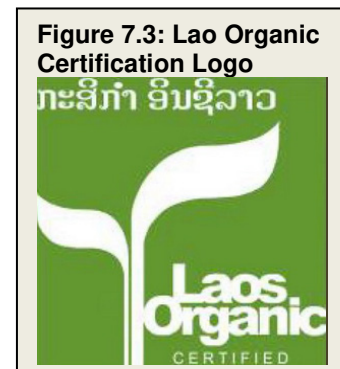
Step 2: Farmer is informed of the results of the inspection and is given a number of days to detail how any corrective action will be taken.

Step 2: The GAP inspection form is then submitted to the OARD board, which reviews and presents it to the sub-committee on GAP certification. This sub-committee compiles and submits the information to the Committee on Food Safety Management which then issues the GAP certificate.

7.4. Certification Agencies in the Lao PDR

Laos has introduced its own set of organic standards based on international norms developed by the International Federation of Organic Agriculture Movements. In 2005 the Ministry of Agriculture and Forestry (MOF) enacted a decree on Organic Agricultural Standards, which established organic agriculture standards that were in line with the basic standards of the International Federation of Organic Agriculture Movements (IFOAM).³⁶ These Standards for the certification of organic products govern the management, inspection and accreditation of such products during the production, harvesting and processing stages.

A Lao Certification Body (LCB) was established in 2008 to provide certification services to the agriculture and food sectors in Lao PDR. The LCB is an autonomous organization operating out of the Clean Agriculture Development Centre in Vientiane Capital, Lao PDR. Currently, LCB is able to offer organic inspections, Lao organic certification and ICS training services. It provides a range of organic inspection and certification services, and is also preparing to deliver other certifications such as Good Agricultural Practices (GAP), pesticide free production and traditional agriculture certification.



³⁶ Ministry of Agriculture and Forestry, "Decision of the Minister of Agriculture and Forestry on Organic Agriculture Standards". Decree No. 1666/MAF. Vientiane, 30 Dec. 2005

7.5. Certification Agencies in the Vietnam

IMO Vietnam is a third party organic certifier with offices in Ho Chi Minh City. The Institute for Marketecology (IMO) provides inspection and certification of organic production under a number of international schemes. They include food safety Hazard Analysis Critical Control Points (HACCP), along with integrated production systems under GLOBALGAP. They also have expertise in the certification of small landholder groups. In order to encourage these types of certifications, IMO has developed new IFOAM documents for smallholder group certification with a guidance manual and training courses for producer groups as well as inspectors and certification staff.

Figure 7.3: IMO Vietnam Certification Logo



7.6. Export Market Certifications

Figure 7.4 summarizes the major organic certifications in the EWEC countries' major export markets. Each has specific requirements, which generally exceed the minimum standards established under the International Federation of Organic Agriculture Movements (IFOAM).









European Union – EWEC country suppliers of organic vegetables to the EU market must comply with two sets of rules, one for all organic processors, and the other for third country suppliers to EU member countries:

- Third country suppliers of EU-certified organic products basically the same rules apply as for organic processors, which can be summarized as follows:
 - ✓ only products from certified organic suppliers can be sold as organic products;
 - ✓ separation of organic products from non-organic products;
 - ✓ prevention of any contamination of organic products;
 - ✓ products must be labeled correctly; and
 - ✓ documentation of all traded organic products.
- Third country suppliers to the European Union must comply with the specific import requirements of the EU for organic products:
 - The importer in Europe must hold a valid import authorization for each organic supplier outside the European Union.
 - Shipment of organic products must have a "certificate of inspection" which confirms the organic quality for the respective lots.

United States – For certification of organic products to be exported to the United States, the exporter has three certification options:

- (1) US certification bodies operating in foreign countries can apply for USDA accreditation. Foreign applicants are evaluated using on the same criteria as domestic certification bodies.
- (2) Receive recognition when the United States Department of Agriculture (USDA) has determined that the foreign certification body's government authority is able to assess and accredit certification bodies as meeting the requirements of the National Organic Standard (NOS);
- (3) Receive recognition as meeting requirements equivalent to the requirements of the NOS under an equivalency agreement negotiated between the United States and the foreign government.

Figure 7.4: Organic Certifications in Major Export Markets

 <p>European Union</p>	<p>The European organic food label has been mandatory throughout the EU since July 2010. EU countries acquired comprehensive organic legislation with the implementation of the EU-Eco-regulation (1992). Supervision of certification bodies is handled on the national level. Regulations governing the way that organic products are grown derive from the guidelines of the International Federation of Organic Agriculture Movements (IFOAM).</p>
 <p>United States</p>	<p>The United States organic legislation defines three levels of organics ("100% organic", 95% organic are "organic", and those with a minimum of 70% organic ingredients are "made with organic ingredients"). The National Organic Program (NOP) was enacted as federal legislation and it restricts the use of the term "organic" to certified organic producers. Certification is handled by state, non-profit and private agencies that have been approved by the US Department of Agriculture (USDA).</p>
 <p>Japan</p>	<p>The Japanese Agricultural Standard (JAS) was fully implemented in 2001 and revised in 2005. All JAS certifiers are required to be accredited by the Ministry of Agriculture. The term "organic" may be used only by certified producers.</p>
 <p>Australia</p>	<p>The Australian Quarantine and Inspection Service (AQIS) is the controlling body for organic certification. The government only becomes involved with organic certification at export. There are several AQIS-approved certifying organizations who issue Organic Produce Certificates.</p>
 <p>Germany</p>	<p>The German national organic label was introduced in 2001. The "Bio"-label has gained widespread popularity and its popularity extends to neighboring countries like Austria, Switzerland and France.</p>
 <p>France</p>	<p>The French organic certification was introduced in 1985. It fulfills the EU regulations for organic food and the certification process is overseen a public institute "Agence française pour le développement et la promotion de l'agriculture biologique" (usually abbreviated "Agence bio"). The actual certification authorities include a number of different institutes.</p>
 <p>Canada</p>	<p>The Canadian certification was implemented at the federal level in 2009. Mandatory certification is required for agricultural products represented as organic in import, export and inter-provincial trade, and those that carry the federal organic logo. In Quebec, legislation provides government oversight of organic certification within the province, through the Quebec Accreditation Board (<i>Conseil D'Accréditation Du Québec</i>).</p>
 <p>China</p>	<p>The Chinese organic certification is issued by the China Organic Food Certification Centre, which is affiliated with the Ministry of Agriculture and provides organic food certification, promotes the trade of organic food products and does research on organic agriculture.</p>

In practical terms, any group considering exporting organic products to the United States should identify a certification body that has or will receive United States certification approval. The US-based organizations with overseas offices will be able to certify all locations when they are approved by the USDA for organic certification.

Japan – The Japan Agriculture Standard (JAS) regulations are based on the CODEX guidelines for organic agriculture. Under the law, all products labeled as organic must be certified by a Registered Certification Organization (RCO) and must display the JAS logo,

as well as the RCO name. Although it is possible for foreign certifiers to register, at the time of writing, all RCOs are currently Japanese.

7.7. International and Regional Certification Bodies

Global Organic Market Access (GOMA; web site: www.goma-organic.org). The GOMA project is overseen by a steering committee comprised of representatives from FAO, IFOAM and UNCTAD. The project is funded by the Norwegian Agency for Development Cooperation (NORAD). It seeks to simplify the process for trade flow of organic products among various regulatory and private organic guarantee systems. GOMA focuses on harmonization and equivalence of organic standards and certification performance requirements as mechanisms for clearing trade pathways.³⁷

ASEAN Good Agricultural Practices (ASEAN GAP. Website: www.aseansec.org). ASEAN GAP is an umbrella standard that individual ASEAN member countries will benchmark their national programs against to gain equivalence. In 2004 Australian government was asked by the ASEAN Secretariat to help in establishing a GAP program for ASEAN. Under a project funded by the ASEAN Australia Development Cooperation Program (Quality Assurance Systems for ASEAN Fruit and Vegetables Project; No. 37703), a standard for ASEAN GAP was developed to harmonize GAP Programs in the region. The goal is to facilitate trade between ASEAN countries and to global markets, improve viability for farmers, and help sustain a safe food supply and the environment.

7.8. SPS Compliance in the EWEC Countries

For the EWEC countries in the early stages of organic vegetable development, cross-border trade will be a critical component of their value chains. The facilitation of this type of trade is largely based on the GMS Cross-Border Trade Agreement (CBTA), which focuses on connectivity and competitiveness, and behind-the-border trade and transport facilitation policies. For trade in vegetables, sanitary and phytosanitary (SPS) certification issued by the exporting country must accompany all shipments.

Thailand's Compliance Standards – Thailand has not confronted any significant difficulties in its exports of vegetable products to the EU, US and Japanese markets. While HACCP standards for their processing plants are commonly applied, overseas customers (mainly supermarkets) establish separate and often more stringent requirements than those of national authorities. As a result, the processing, packaging and exporting company is required by the buy to comply with specific requirements. In general, pesticide testing is conducted by the contractors or middlemen before harvest to identify whether farmers are accepted as suppliers of the exporting company, and after grading the produce, to ensure that shipment meet the importing country's requirement.³⁸ Of course for organic vegetable producers who are already certified, compliance costs are lower than

³⁷ GOMA provides two practical tools for harmonizing organic standards and certification performance requirements: (a) Guide for Assessing Equivalence of Standards and Technical Regulations (EquiTool), and (b) International Requirements for Organic Certification Bodies (IROCB). These tools can be used by stakeholders interested in organic label scheme as tools for recognizing other organic standards and certification performance requirements as equivalent to their own.

³⁸ See, for example, S. Manarungsan, J.O. Naewbanij, and T. Rerngjakrabhet, "Shrimp, Fresh Asparagus, and Frozen Green Soybeans in Thailand". Agriculture and Rural Development Discussion Paper 16. Washington, DC. The World Bank, 2005.

those of conventional produce since, for non-organic products, laboratory costs can often negatively impact the competitive position of the small producer and exporter.

The Lao PDR and Vietnam – While Laos and Vietnam have prepared national SPS action plans to bring their systems up to the compliance requirements of both neighboring countries and the global marketplace, the implementation of those plans still requires substantial work and assistance from development partners. The ADB is therefore assisting Laos and Vietnam in their SPS management of deficiencies in intra-GMS trade within Thailand and China as well as other countries to boost agricultural cross-border movements.³⁹ These countries recognize that access to developed country markets also is characterized by sensitivity to the growing demand for ecologically friendly food and agricultural products that contribute to climate change mitigation and adaptation. Organic vegetable production is therefore being promoted as one of the most important channels through which the GMS countries can together promote the subregion’s comparative advantage in agricultural production and trade.⁴⁰

Box 8.1: Case Study of Tran Que Herb Village

Tran Que Herb Village is located near Hoi An in Quảng Nam province, next to Da Nang province. The villagers began operating as a cooperative group growing organic vegetables in 1984. Originally based on a relatively small amount of cultivated land, they quickly expanded their size and today operate on 18 hectares of land. The village has been supported by Da Nang Science and Technology Department through organic agriculture training programs.



The farmers have learned how to make their own bio-fertilizer and use underground water. About 150 households participate in the farming activities. In 2007, Ministry of Science and Technology certified vegetables cultivate in Tan Que Herb Village as organic produce.

Tran Que village is widely recognized for its organically grown food cuisine by tourists throughout the world. The village not only offers tourists organically grown foods, but also learning experiences in organic cultivation, and cooking lessons. Farmers grow lettuce, green onion, mint, cilantro, basil, and morning glory. For fertilizing the land, they use an algae found only in a nearby lagoon, which gives the vegetables have an outstanding flavor.

Its produce is widely demanded and appreciated because of their freshness, good quality and food safety. The produce is sold locally and also distributed to supermarkets like Metro, Big C and Co-op Mart. Output currently brings an average daily income of 120,000 dong (US\$ 5.75) to each household.

The residents of Tra Que supplement their income through tourism-related activities. The village has become a very attractive destination for tourists, who often try their hand at organic farming.

³⁹ ADB, “Trade Facilitation: Improved Sanitary and Phytosanitary (SPS) Handling in Greater Mekong Subregion (GMS) Trade : Regional”. Manila, 2010.

⁴⁰ GMS Working Group on *Agriculture*, “Core Agriculture Support Program (CASP) Phase II 2011-2015”. Manila, Asian Development Bank, August 2010.

8. MAPPING OPPORTUNITIES AND ACTION PLAN

8.1. Seven Key Strengths

(1) – Low Labor Costs Provide Huge Competitive Advantages to Organic Farmers

Since organic farming is labor intensive, the EWEC member countries have a comparative advantage in the production of organic vegetables because of their low-cost labor relative to that of the more advanced countries.

(2) – Farmer Groups are Well Organized along Most Parts of the Corridor

Farmers associations operating as commercial organizations have been successful in differentiating their products from conventional produce. Their success is largely based on:

- ✓ technical training on safe vegetable production;
- ✓ collaboration in producing or buying input supplies;
- ✓ collective marketing;
- ✓ shared quality controls; and
- ✓ the ability to apply cost-effective labeling and branding to their products.

(3) – Adding Value to Agricultural Activities Can Have Enormous Multiplier Effects on the Population along the Corridor

The majority of MSEs along the EWEC are involved in agricultural activities and many households involved in these activities still live below the poverty line. Improving farmers' earnings by helping them switch to high-end organic products can improve not only their livelihood but also that of other people whose livelihood depends on their participation in agricultural value chains. An organic-based production system could help transform the EWEC transport and logistics corridor into an economic corridor.

Box 8.1: Strengths and Weaknesses of EWEC's Organic Vegetable Value Chain

Key Strengths	Challenging Weaknesses
1. Low labor costs provide huge competitive advantages to organic farmers	1. Individual small farmers cannot achieve scale economies by themselves
2. Farmer groups are well organized along most parts of the corridor	2. Knowledge transfer and information flows are not well organized and lack coordination
3. Adding value to agricultural activities can have enormous multiplier effects on the population along the corridor	3. Lack of packaging and branding prevents organic farmers from receiving premium prices
4. Market for organic vegetables is expanding rapidly	4. Organic and 'safe food' certifications lack standardization
5. Cross-border trade and investments can profit from the EWEC's complementarities among neighboring countries	5. Insufficient information about domestic and export markets
6. The corridor's transport and logistics infrastructure provides excellent regional and global accessibility	6. Price differentials between organic and conventional produce vary widely
7. Strong support from public authorities, NGOs and private entities	7. Cross-border trade and investment opportunities are not being exploited

(4) – The Market for Organic Vegetables is Expanding Rapidly

- Safe food concerns are driving the rapid growth in demand for organic vegetables, not only in international and national markets but in local markets as well.
- The global food market is robust, with prices for foods having risen 36 percent in the last year, and prices for organic vegetables are, on average, 2.4 times higher than their conventional counterparts. Moreover, prices of organic vegetables tend to be more stable than those of conventional vegetables.
- Thailand's large deficit in existing production and organic products provides a ready market for any production taking place throughout the Corridor provinces. That means that the Laotian province of Savannakhet, which is traversed by the EWEC, could be a major supplier of organic products for neighboring countries.
- The three fastest growing markets for branded organic produce are:
 - Supermarket and hypermarkets located in the EWEC countries.
 - The hospitality sector in, for example, organic farms directly servicing restaurants, home-stay organic farms.
 - Export markets directed at high-end retail stores or supermarkets in Europe and North America, which together consume 95 percent of organic foods worldwide.

(5) – Cross-Border Trade and Investments Can Profit from the EWEC's Complementarities among Neighboring Countries

The EWEC countries are at different stages of development in organic vegetable production systems.

- *Thailand* is well advanced in its certification services, packaging and branding, as well as in the building of a growing interest of the population in safe food and organic products. Moreover, overseas buyers favor long-term contractual relationships with suppliers, and Thai organic producers have a fairly long history of overseas trading arrangements with organic traders and retailers.
- For both *Laos* and *Vietnam*, the large deficit in Thailand's organic market provides a ready market for any production taking place throughout the Corridor provinces. Thai packaging companies already have well-designed contract systems in place with organic farmers in other Laotian provinces. The organic price premium and the application of fair trading practices by many Thai organic processors would help build commitments on the part of farmers in the neighboring countries.

(6) – The Corridor's Transport and Logistics Infrastructure Provides Excellent Regional and Global Accessibility

- The EWEC providing infrastructure and system logistics to support production and trade between supply areas and markets.
- The Cross Border Transport Agreements (CBTA) and behind-the-border measures on sanitary and phytosanitary (SPS) standards and non-tariff barriers have helped to promote seamless trade across borders.

- Those advances offer opportunities for households and enterprises of all sizes to participate in the chain of activities by linking their actions with other primary and service providers for the organic foods industry.

(7) – Strong Support from Public Authorities, NGOs and Private Entities

- All EWEC governments support the development of organic agriculture, and in many cases, local authorities, community leaders and international development agencies are already involved in the promotion of different organic projects.
- *Public-private partnerships (PPPs)* have proven to be a highly effective way to support organic agriculture. Closer collaboration between NGOs, the private sector, farmers, scientists, and public authorities can help ensure that the efforts of each group support one another in developing an integrated organic vegetable are not in conflict with one another and that synergy is achieved. Public-private partnerships in developing an integrated supply chain approach can play an important role in the EWEC's organic agricultural sector. The private sector should be the engine of that development, but the EWEC governments are instrumental in providing enabling legal and institutional environments, while NGOs can support capacity building, research and long-term commitments by public agencies to sustainable development of organic agriculture.

8.2. Seven Challenging Weaknesses

(1) – Individual Small Farmers Cannot Achieve Scale Economies by Themselves

- Individual farmers are often poor and too small to have access to logistics and processing services that would allow them to differentiate their organic vegetables from conventional produce. For poor farmers without trucks, the main link to markets are collectors or traders who buy at the farm gate for resale.
- Prices received by the farmer tend to be low and in line with those of non-organic products. The only advantage of organic farming for them is lower material input costs from not having to buy chemical fertilizers and pesticides.

(2) – Knowledge Transfer and Information Flows Are Not Well Organized

- Individual farmers, especially those in poor rural areas, complain about not receiving any advice or technical assistance about fertilization, planting and cultivation, weeding or other growing and harvesting activities
- Brokers lack pricing and market access information beyond their local markets.
- Processors cannot find sufficiently large group of organic farmers in an areas that have the farming knowledge and expertise to provide adequate levels of the right kinds of products.

(3) – Lack of Packaging and Branding Prevents Organic Farmers from Receiving Premium Prices

- For individual farmers, the most difficult and expensive constraint in the organic vegetable value chain is the lack of appropriate packing, storage and handling.

- Packaging and storage processes requires capital and knowledge-intensive activities, application of modern management methods, and well organized logistics operations to coordinate production, handling, packaging and distribution.
- The inevitable result for small independent farmers is the sale of their products to collectors or district markets at prices that are the same as conventional produce.

(4) – Organic and ‘Safe Food’ Certifications Lack Standardization

- The multiplicity of organic and ‘safe food’ certification systems are confusing to the consumer, who therefore places less value on certificates. For the producer, multiple accreditations for the domestic market, as well as various international markets requires time and money.
- Having a single certification that could be used as an equivalency standard for many different markets would greatly simplify the process and lower costs significantly in both sourcing and selling organic products.

(5) – Insufficient Information about Domestic and Export Markets

- *Market Conditions:* Information about supply and demand conditions for existing or potential crops does not move easily between vertically located participants of the value chain. Often, small farmers and traders are unaware of what eventually happens to their vegetables, and they seldom have information about buyers needs. Nowhere is this more apparent than in export markets, where the channels of communication are longer and more complex. Unless farmers form part of vertically integrated processing and distribution companies, lack of information makes it almost impossible for farmers to make informed decisions about what, when and how much to produce of any given type of vegetable.
- *Pricing Information:* Lack of market price information is one of the major problems for small farmers throughout the EWEC provinces. The problem is even greater for farmers that are located in remote villages.

(6) – Price Differentials between Organic and Conventional Produce Vary Widely

Price differentials between organic and conventional produce in the EWEC vary widely across types of products and are not rationalized. Indeed, our survey found that organic prices were sometimes heavily discounted in major supermarkets and hypermarkets. In other cases, premium prices were so high that they inevitably eroded sales and consumer interest in the products.

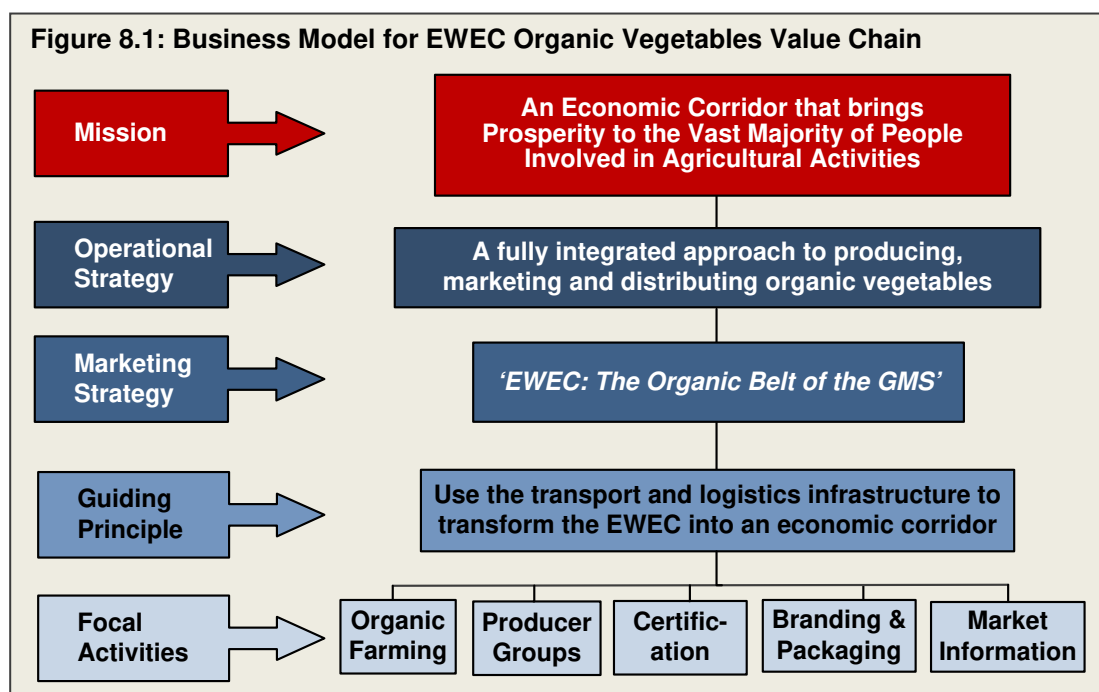
(7) – Cross-Border Trade and Investment Opportunities Are Not Being Exploited

- Except for localized trade along the EWEC, there are no significant movements of vegetables products across borders. Lack of storage facilities reduces border trade opportunities. There are also disincentives for Thai investors because of the complexity of bureaucratic legal and administrative obstacles to doing business in Laos and Vietnam.
- For those investors willing to take advantage of opportunities in Savannakhet and central Vietnam, farm groups need to be organized since small-scale operations are inefficient and not economically viable.

- Long-term commitments are needed in training of organic production, which often requires support from NGOs and other development partners.

8.3. Seven Steps to Translating Opportunities into an Action Plan

The proposed *Action Plan for the EWEC Organic Vegetables Value Chain* consists of the following activities:



Step 1 – Business Model

The business model for the EWEC Organic Vegetables Value Chain is summarized in Figure 8.1 in terms of the mission, goals, guiding principles, implementation strategy and performance measures.

- The *mission* of the EWEC's organic vegetable value chain is an economic corridor that brings prosperity to the vast majority of people involved in activities directly or indirectly associated with the agricultural sector.
- The *operational strategy* is based on a fully integrated approach to producing, marketing and distributing organic vegetables, while the *marketing strategy* is to promote the EWEC as *'the Organic Belt of the GMS'*.
- The guiding principle is to use the transport and logistics infrastructure to transform the EWEC into an economic corridor.
- The *core activities* consist of organic farming, use of producer groups, accreditation of products for certification, branding and packaging to differentiate the product, and a market information to disseminate information about prices and market requirements in national and export markets.

Step 2 – Production Strategy

Create high-profile pilot projects in key areas of the corridor. The existence of exemplary farmers, packaging plants and distribution centers can serve as a showcase to others within a community.

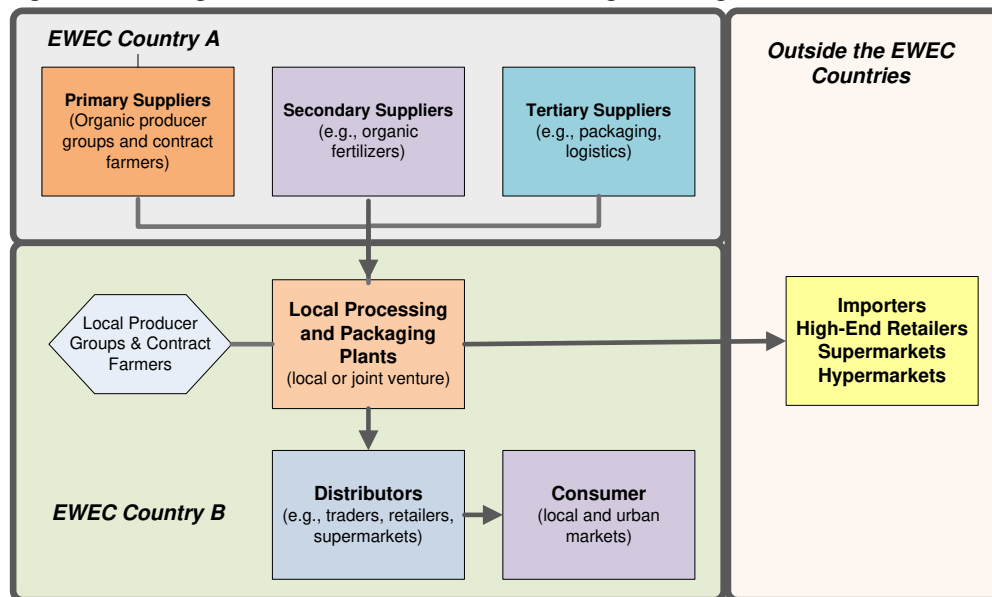
Step 3 – Producer Groups and Processing

Since processing and packaging plants require large and stable primary supply flows, the promotion of existing and new producer groups along the Corridor will be a critical step in the successful transformation of current distributions to local and municipal markets to national and export markets where product differentiation ensures that value is added along the supply chain.

Step 4 – Logistics

Using of existing EWEC transport and logistics facilities, along with improved border transfers, cross-border trade and investment could improve Thailand’s existing organic market deficit, expand organic farming in central Vietnam and Savannakhet, and add value to farming and agro-industrial activities across the EWEC provinces (Figure 8.2).

Figure 8.2: Integrated EWEC Value Chain for Organic Vegetables



Step 5 – Marketing

The core marketing strategy should be based on the promotion of agricultural activity along the EWEC in terms of the slogan ‘EWEC: The Organic Belt of the GMS’. The EWEC’s transformation into an economic corridor could be driven by a push towards creating an *Organic Belt of the GMS*, in which household livelihoods of the large agricultural population base would be substantially bettered from adding value to their agricultural output through organic farming, packaging, accreditation, branding and marketing and distribution. A large-scale conversion of farms to organic methods would provide the much needed economies of scale in the production of organic foods needed to compete in the marketplace.

Step 6 – Market Information

Establish mass media information channels for farmers and processors in the commercial centers along the Corridor that can disseminate information about market prices for each type of organic vegetable being sold in large urban centers of the EWEC countries, as well as the North American and European markets. Additionally, market requirements for different types of produce and market access information should become an integral part of the information system available to farmers.

Step 7 – Knowledge Transfer

- Establish business development service (BDS) centers to help organic producers gain knowledge and basic skills to successfully operate within an integrated value chain for organic vegetables. BDS centers generally provide access to the necessary services to upgrade farming practices, introduce appropriate farming methods, and obtain needed certifications. It can also help channel financing to upgrade production practices to the levels needed to obtain organic certifications and thereby increase revenues and improve livelihoods.
- Institute good business practices in the form of (i) product and service improvements that are in line with national and international production and quality standards; (ii) public sector initiatives that promote an enabling environment for the private sector; (iii) greater access to finance and support services with specialized competencies in target activities; and (iv) development of networks that generate economies of scale and agglomeration in industries having existing or potential competitive advantages along the Corridor. All of these conditions require considerable time to implement and dedication on the part of the implementing agencies.

ANNEX A: CONSULTATIONS AND WORKSHOP PARTICIPANTS

A. Stakeholder Consultations

Date	Name	Position & Institution	Contact Details
Thailand			
7 March	Mr. Niyom Wairatpanij	Deputy Chairman, Board of Trade of Thailand	081 888 5005 Siriniyom_99@yahoo.cm
8 March	Ms. Rachanee Sonkanok	Director of , Office of Agriculture Economic, Ministry of Agriculture	02 579 6085
10 March	Mr. Ralph C. Houtman	FAO, United Nation	086 553 1147 ralph.houtman@fao.com
11 March	Dr.Poramete e Vimolsiri	Deputy Secretary General, NESDB	02 280 2745 porametee@nesdb.go.th
11 March	Mr. Visit Limprana	Deputy Chairman, Agro-Industry Units, The Federation of Thai Industry	02 345 1000 visit@nquansoon.com
14 March	Ms.Naruemon Leesirikul	Vice Chairman The Khon Kaen CC. Industry and Agriculture Department	081 739 6414 Great_computer@hotmail.com
15 March	Ms. Ketsara Supatrahilpol	President of Suwannabumi Organic Co.,	081 670 3453
15 March	Mr. Somjit Paohom	President of Ban Mor, Sam Sung Organic Vegetable Group	081 263 7241
16 March	Asso, Prof. Dr. Supatra Chadbunchachai	Faculty of Phamaceutical Sciences, Khon Kaen University	081 844 4031 supatra@kku.ac.th
16 March	Mr. Somkid Lekekart	Chairman of Kalasin CC.	081 798 2020 Pokkc_2000@hotmail.com
16 March	Mr. Vinit Tidphanaj	President of Kalasin Organic Vegetable Networks	084 321 6553, 083 371 6498
16 March	Ms. Nitaya	Officer of Pupor Local Municipal	081 974 0962
16 March	Mr. Tipmanee Raomara	Committee of Organic Vegetable Group, Tambon Kut Don, Ampur Huay Mek.	089 275 8601
16 March	Mr. Vitee Raomara	Member of T. Kut Don Organic Farmer Group	086 229 4769
17 March	Ms.Rungnapa Jarnpo	Coordination Officer of Organic Vegetable Group of Ampur Vieng Kao	085 011 6910
17 March	Mr. Thonginn	Organic Farmer in Ampur	-

Date	Name	Position & Institution	Contact Details
	Kumkangee	Vieng Kao	
17 March	Mr. Rachan Kitpo	Local of Public Health Dept. Ampur Nong Ruea	085 010 2868
17 March	Mr. Somree Rontthong	Organic Farmer in Ampur Nong Ruea	087 438 1842
17 March	Mr. Paspardon Neampradit	General Manager Trade Center of Agricultural Produces & Exporting	081 871 4901
18 March		Central Laboratory (Thailand Co., Ltd)	
Lao PDR			
21 March	Mr. Srisomphu Douangkhan	“Sustainable Natural Resource Management & Productivity Enhancement Project” ADB & IFAD	020 556 67857
21 March	Mr. Boonrump Siriprasert	Instructor, Agriculture and Forestry College	020 260 4409
21 March	Mr. Somnuk Soumano	Director of Agricultural & Forestry Savannakhet , Ministry of Agricultural & Forestry	020 564 5268
21 March	Ms. Pornsawan Srisawad	Deputy Director of Agricultural Section, Savannakhet	5655 7646
21 March	Mr. Boonrae Kanewong	Director of Agricultural Promotion Center	277 7958 0766
21 March		Head of Organic cultivation division, Agriculture Promotion Center	
22 March	Mr. Kaew Manu	President of Vientiane Organic Farm Network	9844 5087
22 March	Ms. Buaban Kammawong	Officer of Savannakhet Agriculture Section	020 2261 0856
23 March	Ms. TangOnn	Vegetable Farmer, Seno City, Utumporn District,	-
23 March	Mr. Suli	Organic Watermelon Farmer , Ban Nong Pak Song, Archsapangthong District	
24 March	Mr. Thongsri	President of Organic farming, Network in Vientiane	020 5505 0614
24 March	Mr. Leuangxay Bounxokvan	Vice President of Savannakhet CCI	020 212 7777 Savannakhetlao@gmail.com
24 March	Mr. Visay Somchaleun	Director of Export-Import & Agriculture Promotion, Savannakhet CCI.	0202 5564 3756 savannakhetlao@gmail.com
24 March	Mr. Komkrit	Office Manager, Pai Nyen Organic Fertilizer Co.,	020 9868 8884

Date	Name	Position & Institution	Contact Details
24 March	Mr. Ti	Mushroom Farmer, Ban Chaimongkol , Utumporn District	020 9975 1957
Vietnam			
28 March	Mr. Vu Ngoc Tien	Assistant FAO Representative, FAO, Vietnam,	84 4 3942 4280, Tien.vungoc@fao.org
28 March	Ms. Nguyen Thi Huong	National Programme Officer, , FAO Vietnam	(Off) 84 439 424208, ext 40. (M) 0916 046 076
28 March	Ms. Pham Ngoc Tram	Senior Advisor Inclusive Business, SNV, Vietnam	(Off)84 4 3846 3791 ext .110, (M) 84 988 80 732 tphamngoc@snvworld.org
28 March	Mr. Nguyen Hung Cuong	Advisor Agricultural and Forest Product Programme, SNV, Vietnam.	(Off)84 4 3846 3791 ext .114, (M)84 985 958185 cnguyenhung@snvworld.org
28 March	Mr. Daniel Vanlenghi	Country Director, HALVETAS, Vietnam	(M)84 90400 6880 Daniel.valenghi@helvetas.org
30 March	Mr. Nguyen Hoang	Chief of service & Agriculture Collective Cooperation of Tra Que Herb village	Tel. 0905 0280421, Tel. 0395002105, Email: Nguyenhoang-223432006@yahoo.com
30 March	Mr. Ho Ky Minh	Director of Danang Institute for Socio-Economic Development	(M) 0 84 905 105 678 minhkh@ danang.gov.vn
30 March	Mr. Nguyen Phu Ban	Chairman of Danang City farmer Association	Tel. 0905 047 547, nguyenphuban@gmail.com
30 March	Mr. Hong Thi Trinh	Chief Executive of Ha Vang Farmer Association	0905 533 0877 hoinongdanhodvang@gmail.com
31 March	Mr. Thai Van Quang	Chief of Technical Division, Danang Department of Agriculture and rural development	(Off) 0511 383 5522 (M) 0913 409 10 thaiquangstnl@gmail.com
31 March	Mr. Nguyen Xuan Thieu	Vice Chairman of Hue Farmer Association	(Off) 054 353 0291 (M) 0913 495810 hoangnhuphat@gmail.com
31 March	Mr Hoang Nhu Phat	Head of Economic Department	054 538 621 hoangnhuphat@gmail.com
31 March	Mr. Nguyen Qinh Dinh	Collector, Distributor, & Head of Hoa Chau farmer Cooperative	Tel. 0543559594 01222484533

ANNEX B: ORGANIC CERTIFICATION BODIES

Contact information for organic certification bodies are updated annually by Growlink (www.growlink.se). The latest directory is *The Organic Certification Directory 2011*.

Thailand

Department of Agriculture (Organic Thailand)

Phaholyothin Road, Ladyao
Chatuchak Bangkok 10900
Thailand
Government body
Contact: Mr. Paitoon Poonsawas
Web: www.doa.go.th
E-mail: organic@doa.go.th
Tel: +66-2-579 7520 Fax: +66-2-940 5472

Northern Organic Standard Organization (NOSO)

Thailand
3rd party certification body
Contact: Ms. Nitipanee Roamniran
E-mail: noas@thaimail.com

Organic Agriculture Certification Thailand (ACT)

619/43 Kiatngamwong Building,
Ngamwongwan Road
Muang District, Nonthaburi, Thailand

Third Party Certification Body

Contact: Panjaporn Sitbunloam
Web: www.actorganic-cert.or.th
E-mail: actnet@ksc.th.com
Tel: +66-2-580 0934 Fax: +66-2-580 0934

Direct Regulatory Approvals: Canada; EU

Own standard: YES, IFOAM accreditation: YES; ISO 65: YES
Inspection & Certification for other private standards: Bio Suisse;
Soil Association; Naturland; CertAll partners
Geographical scope: Thailand; Cambodia; Hong Kong; Indonesia;
Lao PDR; Malaysia; Myanmar; Nepal; Philippines, Sri Lanka; Vietnam

Lao PDR

Lao Certification Body (LCB)

Patouxay Square
Lanxang Avenue
Vientiane 811, Lao PDR

Government body

Contact: Thavisith Bounyasouk
E-mail: thavisithb@yahoo.co.uk
Tel: +856-21-412 350 Fax: +856-21-412 349
Inspection & Certification for other private standards: CertAll partners
Geographical scope: Lao PDR

Promoting Organic Farming and Marketing in Laos (PROFIL)

No: 026, Unit: 1, Dongpalane thong
Village, Sisattanak District
Vientiane Capital
Lao PDR

3rd party certification body

Contact: Mr. Phouvong Chittanavanh
Web: www.laosorganic.com
E-mail: info@laoprofil.org
Tel: +85-62-1263 189 Fax: +85-62-1263 190

Vietnam**Institute for Marketecology (IMO) Vietnam**

Floor 6th, 19 - 25 Nguyen Hue Str., Dist 1
Ho Chi Minh City
Vietnam
E-mail: xuan.sang@imo-group.org
Phone: + 848 3 9153 173 (ext 209)
Fax: + 848 3 9153 176

Branch office : 3rd party certification body

Contact: Mr. Xavier Bocquillet
E-mail: imovn@vnn.vn
Tel: +84-85-114 951 Fax: +84-85-114 948

Vietnam PGS Network

Vietnam
Participatory Guarantee System organiser
Contact: Koen den Braber
E-mail: koenhuyen@gmail.com

ANNEX C: PHOTOS OF EWEC ORGANIC VEGETABLE SUPPLY CHAINS




1. Thailand

Sum Sung district (Khon Kaen Province): Organic Fruit & Vegetable Farms in Ban Mor Village		
1. Farm Cultivation	Sum Sung District has extensive areas dedicated to organic cultivation. Rotation of crops and diversified bed plantings are an important part of organic farming.	
	Plantings are protected by covers and also provide food and habitat for beneficial insects.	
2. Farm Inputs	Water is collected from groundwater which has been checked for possible contamination.	
	Electricity is brought from the main power lines, but loses its power as distance from source increases.	
3. Marketing	Products are distributed under the district's own label for Sum Sung.	
5. Distribution	Organic products from Sam Sung District. Note label provided by municipal government to local farmers.	

	<p>Wide variety of organic produce from Sam Sung District found in the markets Khon Kaen.</p>	
	<p>Mr. Vinit Tidphanaj, President of Kalasin Organic Vegetable Networks, shows off their organic rice product.</p>	
	<p>Collecting farmer and market price data for organic produce.</p>	







**Huay Meg District (Kalasin Province):
Organic Fruit & Vegetable Farms in Tambon Kut Don**

<p>1. Farm Cultivation</p>	<p>Mr. Tipmanee Raomara (right), Organic Farmer in Tambon Ku Don, says that his livelihood has improved greatly since switching to organic farming. Costs are about the same, but prices for his products are about double those of non-organic varieties.</p>	
<p>2. Inputs</p>	<p>Lemongrass (<i>Cymbopogon citratus</i>) is grown on the farm and used natural pesticide to ward off insects.</p>	


3. Harvesting	A wide variety of organic fruits and vegetables are grown in the farms in Ampur Huay Mek, ranging from mangos to papaya, groundnuts (peanuts), lettuce, cabbage, and tomatoes. Mr. Vitee Raomara has been increasingly switching traditionally grown crops in the area (rice and sugarcane) to organic fruits and vegetables.	
4. Cooperatives	Farmers from the Tambon (sub-district) meet once-a-month to discuss planting and cultivation issues. Recently, it was agreed that each farmer from this Tambon would dedicate at least one (1) rai of his or her land to organic cultivation.	
5. Distribution	Sok Hin Kao Local market in Ampur Huay Mek.	

**Viang Kao District (Khon Kaen Province):
Organic Fruit & Vegetable Farms in Tambon Nai Muang and Tambon Khao Noi**

1. Farm Cultivation	Farmers are limited to cultivation of organic produce near lakes because ground water has high salt contents. The village has started mushroom production through the independent research carried out by the community technical expert.	 
2. Harvesting	Local farmers have seen their livelihoods improve as a result of organic cultivation and show pride in their products	

<p>3. Cooperatives</p>	<p>Village members work together to promote cultivation and distribution of their organic produce to local market. Prof. Supatra Chadbunchachai, Faculty of Pharmaceutical Sciences of Khonk Kaen University, has championed organic farming in numerous provinces along EWEC and her 7 years of work is now being published.</p>	 
<p>4. Collection</p>	<p>Cabbage is collected from farmers in village and distributed to wholesalers in the nearby provinces</p>	
<p>Suwannabhumi Organic Farm, Phetchabun Province</p>		
<p>1. Farm Cultivation</p>	<p>Suwannabhumi's has gained international recognition through the companies promotion of good farming practices</p> <p>Good Agricultural Practices (GAP) for organic farming requires careful planning for soil and water, including natural fertilizers, crop rotation, maintenance of soil structure, and irrigation practices that avoid soil runoff, and water management and conservation practices.</p> <p>Cabbage is widely used by households in Asia and elsewhere because of its very low in cholesterol and its good source of niacin, calcium and potassium, and a very good source of vitamin a, vitamin C, iron, zinc, copper and manganese.</p>	  

	<p>The farm is testing the use of hydroponic cultivation techniques since it provide the minerals required for plant growth directly, resulting in much higher growth rates, yields and even crop quality.</p>	
	<p>Organic fertilizer mulching techniques are used in the farm to conserves soil moisture and nutrients, reduce soil erosion and weed growth, provide barrier between fruits and soil to lower soil rot on fruit, and moderates the soil temperature.</p>	 
<p>2. Restaurant</p>	<p>Ms. Ketsara, owner of Suwanna-bhumi Organic Co. has popular restaurant in Khon Kaen to promote organic foods</p>	
<p>3. Marketing</p>	<p>Brochure on Suwannabhumi Organic Co. in Khon Kaen promoting organic products and indicating its own produce covering over 40 types of organic products for domestic and overseas markets</p>	
<p>Certification Services</p>		
<p>1. Laboratories</p>	<p>Central Laboratory (Thailand) is the largest network of independent laboratories in Thailand, providing testing, inspections, for organic produce and other products.</p>	





2. Testing	Laboratories use modern instruments and advanced techniques for plant sampling and testing, soil sampling and testing, fertilizer testing, pesticide formulation testing, and pesticide efficacy trial testing. The Khon Kaen laboratory also provides services to Savannakhet in Laos.	
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2. Laos

Xaiphouthong District (Savannakhet): Organic Fruit & Vegetable Experimental Farm		
1. Farm Cultivation	“ <i>Ban Pak Ka Organic Farming Group</i> ” is located in Xaiphouthong District	
	Covering structure is being prepared. Organic farmers rely on cover crops to perform multiple roles and functions on the farm, including soil protection, soil improvement, and insectary habitat. From a fertility angle, the cover crop seed can be viewed as a fertilizer expense.	
2. Farm Inputs	Support for farm inputs is provided by the Department of Agriculture and Forestry and the International Fund for Agricultural Development (IFAD).	
	Despite the proximity to the Mekong River, organic farming requires that water must be pumped from underground wells to ensure non-contamination of water supplied to fields.	

	<p>Systems-based organic production practices conserve nutrients, protect water quality, and maintain biological diversity by increasing soil organic matter, composting, using crop rotation, and using conservation practices that reduce the potential for water runoff.</p>	
<p>3. Donor Assistance</p>	<p>The Asian Development Bank (ADB) and International Fund for Agricultural Development (IFAD) provide support to sustainable agricultural development through the Department of Agriculture and Forestry of the .</p>	
<p>3. Training</p>	<p>Training is provided on site by the President of Vientiane Organic Farm Network</p>	
<p>5. Distribution</p>	<p>Savannakhet market is a large distribution center for local farmers and traders from other provinces both in Laos and from Thailand's Mukdahan province and the central provinces of Vietnam</p>	
<p>5. Distribution</p>	<p>Traders bring cabbage, tomatoes, pumpkins and other vegetables from Champasak.</p>	
	<p>Mushrooms are a popular item in markets, with generally favorable prices and premium prices for branded organic varieties.</p>	

Ban Nong Pak Song Watermelon Farm

<p>1. Farm Cultivation</p>	<p>Watermelon farm in Atsaphone District of Savannakhet produces high quality products of excellent taste. Yet farmers receive minimal prices because they lack access to markets.</p>	
<p>2. Inputs</p>	<p>Bio gas is produced from manure</p>	
<p>3. Harvesting</p>	<p>The farm harvests nearly 1,200 watermelons each month</p>	
<p>4.. Distribution</p>	<p>Watermelons are loaded onto tractor and sold to neighboring villages at 1,000 to 1,300 kip (4 to 5 baht) each.</p>	

3. Vietnam

Tra Que Herb Village – Linking Organic Farming with Eco-Tourism

Tra Que is a village located near Hoi An in Quảng Nam province. It is famous for many kinds of organic vegetables, including lettuce, basil and coriander.

The farmers use neither manure nor chemical fertilizers, but rather a kind of algae found only in a lagoon in Tra Que. As a result, the vegetables have an outstanding flavor.





Products sell well and are highly appreciated because of their freshness, good quality and food safety.

Each day 8 tons of vegetables are sold and people in Quang Nam-Da Nang area.

The residents of Tra Que supplement their income through tourism-related activities. The village has become a very attractive destination for tourists, who often try their hand at organic farming.



Cooperatives of Ha Vang Hoa Chau in Hue and Ha Vang in Da Nang

<p>1. Farm Cultivation</p>	<p>Ha Vang Farmer Cooperative in Da Nang</p>	
<p>2. Cultivation</p>	<p>Each household is allocated a portion of the communal land to work themselves</p>	
<p>3. Harvesting</p>	<p>Yields are higher because training received by farmers. Household incomes are significantly higher than those famers in nearby individual plots who operate independently and without guidance from the community leaders.</p>	 
<p>5. Distribution</p>	<p>The cooperatives use one broker to package and distribute their produce, thereby consolidating efforts and gaining efficiency.</p>	